

# LOG OF BORING EW-1

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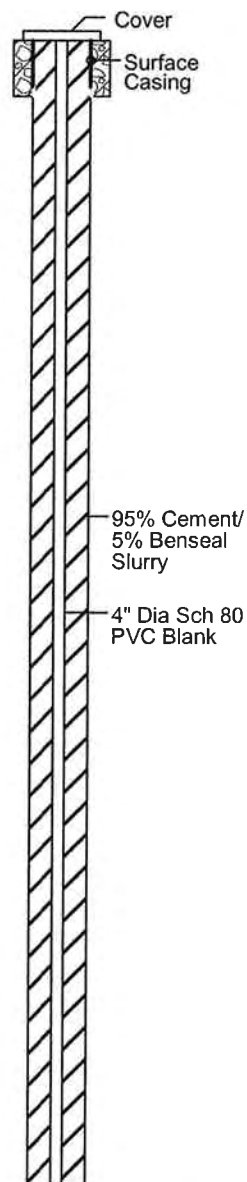
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 25, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Mud Rotary

OVA : MiniRae  
Driller :  
Drilling Method : Mud Rotary  
Diameter : 9.75  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
0			08:25					Grass surface to ~6". (Off mud-return) SILT with CLAY and SAND, ~10-20% Sand, black (7.5YR 2.5/1).
5			08:33					(Off mud-return) CLAYEY SILT, soft, olive (5Y 4/4), moist.
10			08:40					Same as above.
15			08:47			ML		Same as above - medium stiff. Increasing SAND content ~5-10% fine to medium Sand (max. 1.5 mm diameter).
20			09:01					(Off mud-return) SILT with SAND and CLAY, ~20% fine to medium Sand, ~10-20% Clay, olive brown (2.5Y 4/4).
25								

Well: EW-1  
Elev.: 152.43



DESCRIPTION OF BORING LOCATION: On side of Burke just east of Sorenson, in greenbelt, between  
MW-8A and MW-8D.

NOTES: Depth in feet below ground surface (bgs). Centralizers on sump and at 40 feet bgs.

# LOG OF BORING EW-1

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Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 25, 2005  
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Drill Rig : Mud Rotary

OVA : MiniRae  
Driller :  
Drilling Method : Mud Rotary  
Diameter : 9.75  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: EW-1 Elev.: 152.43
25						ML			
30						SP/SW		(Off mud-return) Poorly graded SAND, predominantly (~80%) fine to medium (max. 2 mm diameter), ~20% coarse (max 5 mm diameter)  Same. Lots of "chatter" from 30-37', possible gravel.	
35			09:27			SP		Same as above.	
40			09:32			SP/SW		(Off mud-return) Poorly graded SAND, fine to medium grained (max. 1 mm diameter), olive brown (2.5Y 4/4), wet.	
						SP		Some chatter ~38-39'. Well graded SAND	
45			09:45			SW		Poorly graded SAND, as above.	
50								(Off mud-return) Well graded SAND, fine to coarse Sand, (max. 5 mm diameter), subangular to subrounded.	

95% Cement/  
5% Benseal  
Slurry  
  
4" Dia Sch 80  
PVC Blank

DESCRIPTION OF BORING LOCATION: On side of Burke just east of Sorenson, in greenbelt, between MW-8A and MW-8D.

NOTES: Depth in feet below ground surface (bgs). Centralizers on sump and at 40 feet bgs.

# LOG OF BORING EW-1

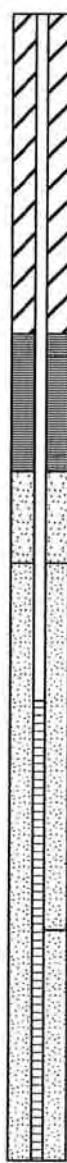
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Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed	: May 25, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	:
Checked By	: Ronald Halpern, PG	Drilling Method	: Mud Rotary
Drilling Company	: WDC	Diameter	: 9.75
Drill Rig	: Mud Rotary	Calibration Gas/Conc	: 100 ppm Isobutylene

Depth in Feet	Samples	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
50								Fine and coarse GRAVEL (<5%) observed.	
55			09:55			SW		Lot of chatter at 55'. Well graded SAND with Gravel, ~20-30% Gravel, ~70-80% well-graded fine to coarse Sand, Gravel (max 15 mm diameter) (subrounded, igneous rock with quartz and mafic materials).	
60			10:00					(Off mud-return). SILT, olive brown.	
65						ML			
70			10:26			SP		(Off mud-return) Poorly graded SAND, fine to medium grained.	
75						CL		(Off mud-return) Chattering stopped at ~73'. SILTY CLAY with SAND, ~10-20% fine to medium Sand, occasional fine Gravel, olive brown, soft to medium stiff.	

Well: EW-1  
 Elev.: 152.43



95% Cement/  
5% Benseal  
Slurry

4" Dia Sch 80  
PVC Blank  
Medium Chips

#30 Transition Sand

#2/12 Sand Pack

4" Dia Sch 80  
PVC w/0.02" Slotted Screen

DESCRIPTION OF BORING LOCATION: On side of Burke just east of Sorenson, in greenbelt, between MW-8A and MW-8D.

NOTES: Depth in feet below ground surface (bgs). Centralizers on sump and at 40 feet bgs.


# LOG OF BORING EW-1

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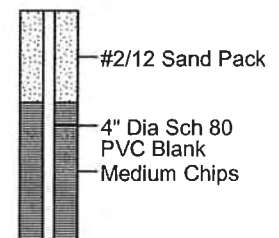
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 25, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Mud Rotary

OVA : MiniRae  
Driller :  
Drilling Method : Mud Rotary  
Diameter : 9.75  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
75						CL		
80			10:37					Bottom of boring at 80'.
85								
90								
95								
100								

Well: EW-1  
Elev.: 152.43



DESCRIPTION OF BORING LOCATION: On side of Burke just east of Sorenson, in greenbelt, between MW-8A and MW-8D.

NOTES: Depth in feet below ground surface (bgs). Centralizers on sump and at 40 feet bgs.







PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/11/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/11/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.2		60	CORE			ML		Dark grayish brown (10YR 4/2) fine SILT, non-plastic, mottled with oxides, micaceous, wet, soft.		
		0	NR		40	SM		Dark grayish brown (2.5Y 4/2) silty very fine SAND, very well sorted, micaceous, locally grading to fine sandy silt.	38.0	Medium Bentonite Chip
0.2		42	CORE			ML		Dark grayish brown (2.5Y 4/2) fine sandy SILT.	41.5	
						SP		Dark grayish brown (2.5Y 4/2) fine to medium SAND, medium to well sorted, saturated, dense.	43.0	
								Dark grayish brown fine to coarse SAND, trace to little subrounded gravel to 1 to 2-inch, medium sorting, saturated, dense.	44.0	
NM		0	NR		45	SW				
		36	CORE							
		0	NR		50			Olive gray (5Y 4/2) fine SAND to fine to medium SAND, very well to well sorted, trace silt, trace clay, with 2-inch fine sandy silt layer at base	49.5	
1.7		42	CORE			SP				#3 Monterey Sand
						SW		Dark grayish brown (2.5Y 4/2) gravelly fine to coarse SAND, medium sorted, gravel to 1.5-inch.	53.5	Sch. 40 PVC 0.02-inch Slotted Well Screen (45 to 60 feet bgs)
0.7		0	NR		55	SP-SM		Light olive brown (2.5Y 5/4) silty fine to medium SAND, medium sorted, trace fine gravel to 3/4-inch, trace clay, slightly moist, slightly cemented.	55.0	
								Light olive brown medium to coarse SAND, trace gravel to 3/4-inch, saturated, very dense.	56.0	
		24	CORE			SP				
						SM		Pale olive (5Y 6/3) silty fine to medium SAND, trace clay, wet/saturated, very slightly cemented.	59.5	
2.1					60			Bottom of borehole at 60.0 feet.	60.0	





DATE STARTED 12/27/01

DATE COMPLETED 12/27/01

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUT TYPE/QUANTITY Portland/5% Bentonite / 230 gal.

DEPTH TO WATER 30.4

GROUND WATER ELEVATION 127.8

REMARKS Lithology to 60 feet from MW01ABORING/WELL CONSTRUCTION LOG OMEGA WELL LOGS GPJ RFW SHERMAN OAKS GDT 1/22/03



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/27/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/27/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.2		60	CORE			ML		Dark grayish brown (10YR 4/2) fine sandy SILT, non-plastic, mottled with oxides, micaceous, wet, soft.		
		0	NR		40	SM		Dark grayish brown (2.5Y 4/2) silty very fine SAND, very well sorted, micaceous, locally grading to fine sandy silt.	38.0	Sch. 40 PVC Blank Casing
0.2		42	CORE			ML		Dark grayish brown (2.5Y 4/2) fine sandy SILT.	41.5	
						SP		Dark grayish brown (2.5Y 4/2) fine to medium SAND, medium to well sorted, saturated, dense.	43.0	
NM		0	NR		45	SW		Dark grayish brown fine to coarse SAND, trace to little subrounded gravel to 1 to 2-inch, medium sorting, saturated, dense.	44.0	
		36	CORE							Portland Cement Grout w/ 5% Bentonite
									49.5	
1.7		0	NR		50	SP		Olive gray (5Y 4/2) fine SAND TO fine to medium SAND, very well to well sorted, trace silt, trace clay, with 2-inch fine sandy silt layer at base.		
		42	CORE			SP				
						SP		Dark grayish brown (2.5Y 4/2) gravelly fine to coarse SAND, medium sorted, gravel to 1.5-inch.	53.5	
0.7		0	NR		55	SP-SM		Light olive brown (2.5Y 5/4) silty fine to fine SAND, medium sorted, trace fine gravel to 3/4-inch, trace clay, slightly moist, slightly cemented.	55.0	
						SP		Light olive brown medium to coarse SAND, trace gravel to 3/4-inch, saturated, very dense.	56.0	
		24	CORE							
									59.5	
		0	NR		60	SM		Pale olive (5Y 6/3) silty fine to medium SAND, trace clay, wet/saturated, very slightly cemented.		
2.1		36	CORE					Olive brown (2.5Y 4/3) fine to medium SAND, trace silt, trace subrounded gravel to 1/2-inch toward base, medium sorted, wet.	62.0	
		0	NR		65	SP				
		12	CORE			SM		Olive brown (2.5Y 4/4) silty fine SAND, micaceous, well sorted, wet.	69.0	
		0	NR		70	SW		Olive brown gravelly fine to coarse SAND, trace silt, gravel subrounded to subangular and 1/2 to 1-1/2 inch, medium sorted, wet, partly cemented at 70 feet bgs.	69.5	Bentonite Pe Seal
						SW		Olive brown fine to coarse SAND, little subrounded gravel 1/8 to 2-inch, poorly sorted, wet.	72.0	
0.7		36	CORE			SW				
						SP			74.0	



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/27/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/27/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0	NR			SP		Olive brown fine to medium SAND, trace silt, trace gravel, micaceous, cemented at 75 feet bgs. (continued)	77.0	
		36	CORE			GP		Olive brown medium to coarse sandy GRAVEL, clasts subrounded 1/8 to 1-inch.	78.3	
						ML		Olive brown clayey SILT, trace fine sand, micaceous.	78.5	
								Olive brown fine SAND, little silt, micaceous, well sorted, wet.		
		0	NR		80	SP				
0.5		30	CORE			SP		Dark grayish brown (2.5Y 4/2) fine to medium SAND, few coarse grains, 1-inch silt lens, wet.	82.5	
0.3		60	CORE		85			Olive brown (2.5Y 4/4) silty CLAY, slightly plastic, stiff.	85.0	
						CL				
0.2		60	CORE		90			Olive brown silty CLAY, trace subrounded gravel 1/8 to 1/4 inch, stiff.	90.0	
						CL				
NM					95			Bottom of borehole at 95.0 feet.	95.0	

#3 Monterey Sand  
Sch. 40 PVC 0.02-inch Slotted Well Screen (75 to 85.4 feet bgs)  
Bentonite Pellet Backfill







PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/12/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/12/01

LOCATION Whittier, CA

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

SAMPLING METHOD Continuous 5-foot Core

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUND ELEVATION 154.94

GROUT TYPE/QUANTITY Portland/5% Bentonite / 155 gal.

TOP OF CASING 158.09

DEPTH TO WATER 27.1

LOGGED BY A. Cohan

GROUND WATER ELEVATION 127.8

REMARKS

BORINGWELL CONSTRUCTION LOG OMEGA WELL LOGS GPJ REW SHERMAN OAKS GDT 1/22/03

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
NM		60	AUGER					Asphalt Dark brown (10YR 3/3) clayey SAND, some stringers, some calcareous clasts, slight luster.	0.4	Traffic-rated vault Rapid-set Concrete
NM		60	CORE		5	SC				
						CL		Very dark brown (10YR 2/2) CLAY	6.0	
0.0		60	CORE		10	ML		Dark brown (10YR3/3) clayey SILT, trace fine sand, slight to medium plasticity, slightly moist, stiff.	9.5	
0.0		60	CORE		15					
0.0		0	NR		20	CL-ML		Dark brown (10YR 3/3) silty CLAY, trace angular gravel (possible concretions).	17.0	
0.0		48	CORE			CL		Dark yellowish brown (10YR 3/4) fine sandy CLAY.	21.0	Portland Cement Grout w/ 5% Bentonite
						ML		Dark yellowish brown (10YR 3/4) fine sandy SILT, very moist, more plastic and micaceous at 25 feet bgs.	22.5	Sch. 40 PVC Blank Casing
0.0		0	NR		25					
0.0		48	CORE			SM		Dark brown silty fine SAND	26.5	
0.2		0	NR		30	SP		Fine SAND, well sorted	29.0	
						SP				
		30	CORE					Dark yellowish brown (10YR 3/6) SAND, fine to medium grained, trace silt, well sorted, wet, trace mica.	32.5	





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/12/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/12/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
35		0	NR					Dark yellowish brown (10YR 3/6) SAND, fine to medium grained, trace silt, well sorted, wet, trace mica. (continued)		
		0	NR		40	SP				
		30	CORE			SW		Olive brown (2.5Y 4/3) gravelly SAND, poorly sorted, wet.	42.5	
						ML		Dark yellowish brown (10YR4/4) fine sandy SILT.	43.0	
								Olive brown (2.5Y 4/3) fine to coarse SAND	43.5	
51		0	NR		45	SW				
		24	CORE					Medium to coarse SAND, moderate to poorly sorted, moist, 1.5-inch subrounded grains, trace of cementation with trace clay found in lower inch of sample.	48.0	
23		0	NR		50	SP				
		30	CORE			SM		Dark grayish brown (10YR4/2) SILTY FINE SAND, wet, soft	52.4	
						SW		Olive brown (2.5Y 4/3) fine to coarse SAND, moderately sorted, 1 inch subrounded to rounded gravel, moist, trace of cementation in lower portion of sample.	52.5	
39		0	NR		55			Olive brown fine to medium SAND, cemented toward base	55.0	
		30	CORE			SP				
31					60			Bottom of borehole at 60.0 feet.	60.0	

Bentonite Pellets

#3 Monterey Sand

Sch. 40 PVC 0.02-inch Slotted Well Screen (45 to 60 feet bgs)



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/12/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/12/01

LOCATION Whittier, CA

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

SAMPLING METHOD 30-inch Split Spoon

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUND ELEVATION 152.28

GROUT TYPE/QUANTITY Portland/5% Bentonite / 140 gal.

TOP OF CASING 151.99

DEPTH TO WATER 25.9

LOGGED BY T. Mehall

GROUND WATER ELEVATION 126.4

REMARKS

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60	AUGER					Asphalt	0.4	Traffic-rated vault Rapid-set Concrete
NM		0	NR		5			Dark yellowish brown (10YR 3/4), CLAY with little sand, low plasticity, slightly moist, firm, no odor. Similar extending to 15 feet below ground surface (bgs).		
		24	CORE							
0		30	CORE		10	CL				
0.1		30	CORE		15					
						SC-SM		Yellowish brown (10YR 5/6), Clayey SAND with silt, 30% fines and 70% fine sand, moist, firm, no odor.	16.5	
								Dark yellowish brown (10YR 3/4), CLAY with some fine sand, low plasticity, moist, firm, no odor.	17.0	Portland Cement Grout with 5% Bentonite
0.2		30	CORE		20	CL				Sch. 40 PVC Blank Casing
						SC		Dark yellowish brown (10YR 4/4), clayey SAND, 40% clays, 60% fine sand, moist, firm, no odor.	21.5	
0.4		30	CORE		25					
						SC-SM		Dark yellowish brown (10YR 4/4), SAND with clay and silt, 30% fines, 70% fine to medium sand, subrounded, moist to wet, soft.	25.5	
NM		30	CORE		30			Brownish yellow (10YR 6/6), SILT with sand and clay, 20% fine sand and 80% fines, low plasticity, moist to wet, firm, no odor, trace cementation.	29.0	
						ML				Bentonite Chips





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/12/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/12/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
NM		0 27	NR CORE			SM		Brownish yellow (10YR 6/6), silty SAND, 40% fines, 60% fine sand, no plasticity, wet, soft, no odor, 2-inch diameter cemented nodule in shoe.	35.5	<p>#3 Monterey Sand Sch. 40 PVC 0.02-inch Slotted Well Screen (37.8 to 48 feet bgs)  Bentonite Pellets Backfill</p>
NM		0 27	NR CORE		40	SP- SM		Dark yellowish brown (10YR 4/6), SAND with silt, 20% silt and 80% fine to medium sand (predominantly medium), poorly graded, wet, soft, no odor.	40.5	
NM		30	CORE		45	SP		Dark yellowish brown (10YR 4/6), SAND, poorly graded, predominantly medium grained, wet, soft, no odor.	44.0	
								Yellowish brown (10YR 5/4), SILT, 25% fine sand and 75% silt, moist, firm to hard, no odor, trace cementation, wet at 50 feet bgs.	47.0	
NM		15	CORE		50	ML			51.3	
Bottom of borehole at 51.3 feet.										



PROJECT NUMBER 20074.515.009.0321

PROJECT NAME Omega OU-02

LOCATION Whittier, CA

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SAMPLING METHOD Continuous 30-inch Split Spoon

GROUND ELEVATION 147.39

TOP OF CASING 147.20

LOGGED BY T. Mehall

REMARKS

DATE STARTED 12/10/01

DATE COMPLETED 12/10/01

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUT TYPE/QUANTITY Portland/5% Bentonite / 140 gal.

DEPTH TO WATER 23.0

GROUND WATER ELEVATION 124.4

BORINGWELL CONSTRUCTION LOG OMEGA WELL LOGS GPJ RFW SHERMAN OAKS GDT 1/22/03

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60	AUGER					Asphalt	0.4	
						ML		Dark yellowish brown (10YR 4/4), SILT with gravel, 90% silt and 10% medium subrounded gravel clasts, moist, soft, no odor.		
2.7		30	CORE		5	ML		Dark yellowish brown (10YR 4/4), SILT, 95% silt and trace fine sand, moist to wet, soft, no odor.	5.0	
		0	NR						8.5	
		15	CORE					Very dark grayish brown (10YR 3/2), CLAY, medium plasticity, moist, firm, no odor, trace of cemented nodules at 9.5 to 10 feet below ground surface (bgs).		
1.7		30	CORE		10	CL			11.5	
						CL		Similar to above, consistency increases to hard, color change to dark grayish brown (10YR 4/2). Moisture decreases to slightly moist, increased silt content, lower plasticity.	12.5	
		30	CORE			CL-ML				
1.2		30	CORE		15				16.5	
						SW-SC		Dark yellowish brown (10YR 3/4), SAND with clay, 75% fine to coarse sand, 25% clay, well graded, subrounded, moist, no odor, trace of fine gravel.	17.0	
		30	CORE					Dark grayish brown (10YR 4/2), CLAY, low plasticity, firm, slightly moist to moist, no odor. Slight increase in plasticity at 20 feet bgs. Trace cementation at 21.5 and 25 feet bgs.		
0.7		30	CORE		20	CL				
		30	CORE							
0.7		30	CORE		25					
		30	CORE			CL		No significant change from above, 75% fines and 25% fine sand, decrease plasticity to low, slightly moist, no odor.	27.0	
									28.5	
		0	NR		30	ML		Dark yellowish brown (10YR 4/6), sandy SILT, slightly moist, hard, no odor.		
2.7		15	CORE							
		30	CORE			SP		Dark yellowish brown (10YR 4/6), SAND, fine to medium grained (predominantly medium), poorly graded, subangular, wet, no odor.	32.0	





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/10/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/10/01

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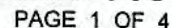
PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
17.5		30	CORE			SP		Dark yellowish brown (10YR 4/6), SAND, fine to medium grained (predominantly medium), poorly graded, subangular, wet, no odor. (continued)	37.0	
		30	CORE			SW		Dark brown well graded SAND with gravel (25% fine sand, 50% medium sand, 25% coarse sand), 90% sand with 10% gravel, subrounded to rounded sand, wet, no odor.	38.5	
0		30	CORE		40	SP		Dark yellowish (10YR 4/6) poorly graded sand, fine to medium (predominantly medium), subangular, wet, no odor.	40.0	
		30	CORE			SW-SC		Dark grayish brown (10YR 4/2) well graded SAND with clay and gravel, (20% clay, 10% medium gravel subrounded, 70% SAND). SAND comprised of 20% fines, 40% medium, 40% coarse, subangular, wet, no odor.	43.0	
0		30	CORE		45	SW		Gray (10YR 5/1), SAND, 15% gravel and 85% well graded sand (20% fine, 40% medium, and 40% coarse), subangular, wet, no odor.	45.5	
		30	CORE			SM		Silty SAND in sluff	47.5	
0		0	NR			SM-SW		Gray (10YR 5/1), silty SAND, similar to above, bottom 1/2 foot well graded SAND (SW) with coarse gravel, 25% gravel, 75% SAND (20% Fines, 50% medium, and 30% coarse), subangular to subrounded, wet.	50.0	
NM		0	NR		50			Sluff contains poorly graded sand and silty sand, wet, no odor.	50.0	
		15	CORE			SP			53.0	
Bottom of borehole at 53.0 feet.										

Bentonite Chine

#3 Monterey Sand

Sch. 40 PVC 0.02-inch Slotted Well Screen (42.7 53 feet bgs)





**REMARKS** Lithology to 53 feet below ground surface from MW04A

BORING/WELL CONSTRUCTION LOG OMEGA WELL LOGS GPJ RFW SHERMAN OAKS GDT 1/22/03





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/17/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/18/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
						SP		Dark yellowish brown (10YR 4/6), SAND, fine to medium grained (predominantly medium), poorly graded, subangular, wet, no odor. (continued)	37.0	Sch. 40 PVC Blank Casing
						SW		Dark brown well graded SAND with gravel (25% fine sand, 50% medium sand, 25% coarse sand), 90% sand with 10% gravel, subrounded to rounded sand, wet, no odor.	38.5	
					40	SP		Dark yellowish (10YR 4/6) poorly graded sand, fine to medium (predominantly medium), subangular, wet, no odor.	40.0	
						SW-SC		Dark grayish brown (10YR 4/2) well graded SAND with clay and gravel, (20% clay, 10% medium gravel subrounded, 70% SAND). SAND comprised of 20% fines, 40% medium, 40% coarse, subangular, wet, no odor.	43.0	
					45	SW		Gray (10YR 5/1), SAND, 15% gravel and 85% well graded sand (20% fine, 40% medium, and 40% coarse), subangular, wet, no odor.	45.5	
						SM		Silty SAND in sluff	47.5	
						SM-SW		Gray (10YR 5/1), silty SAND, similar to above, bottom 1/2 foot well graded SAND (SW) with coarse gravel, 25% gravel, 75% SAND (20% Fines, 50% medium, and 30% coarse), subangular to subrounded, wet.	50.0	
						SP		Sluff contains poorly graded sand and silty sand, wet, no odor.	53.0	
					55	SM		Dark yellowish brown (10YR 3/4), silty SAND (25% silt, 75% fine sand), wet, no odor.	57.5	
					60	ML		Olive brown (2.5Y 5/3), very fine sandy SILT, micaceous, low plasticity, moist, medium stiff.	60.0	Lower 2.5'-Bentonite Pellets, Upper 3.3'-Bentonit Chips
						ML		Dark olive 2.5Y 4/3 and 2.5Y 5/1 slightly mottled clayey SILT, grading to (CL) silty CLAY, slight to medium plasticity, moist, medium stiff.	61.5	
						ML		Fine sandy SILT, slightly micaceous.	63.0	
						ML		Clayey SILT, medium plasticity, medium stiff.	63.5	
									64.0	
					65	SM		Light olive brown (2.5Y 5/4), silty fine SAND, 5% clay, 55% fine sand and 40% silt, well sorted, grading into a fine to medium SAND, 45% fine sand, 10% medium sand and 40% silt, micaceous.	67.5	#3 Monterey Sand
						SP		Dark gray (5Y 4/1) well sorted SAND (75% fine sand, 10-25% medium sand), 0-10% SILT, wet, medium dense.		





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/17/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/18/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0	NR			SP		Dark gray (5Y 4/1) well sorted SAND (75% fine sand, 10-25% medium sand), 0-10% SILT, wet, medium dense. (continued)		
NM		12	CORE			SP		Grading to dark grayish brown (2.5Y 4/2), SAND, 60% medium sand and 40% fine sand.	79.0	
		0	NR		80	CL		Gray (2.5Y 5/1) silty CLAY, medium plasticity, moist, medium stiff, some nodules.	79.5	Sch. 40 PVC 0.02-inch Slotted Well Screen (69.7 to 80 feet bgs)
NM		42	CORE			CL-ML		Olive to gray (5Y 5/1 and 5Y 5/4), clayey SILT to silty CLAY, 10% very fine sand, very slightly plastic, hard/cemented.	81.5	
		0	NR		85	ML		Olive (5Y 5/4), Clayey SILT to very fine sandy SILT, moist, non-plastic, medium stiff. Grades into a fine sandy SILT, 30 % fine sand, 60% silt and 10% clay, moist, non-plastic.	82.5	Bentonite Pellets
NM		18	CORE			SM		Dark grayish brown to dark yellowish brown (2.5Y 4/2 to 10YR 4/4), silty fine SAND, 60% fine sand, <10% medium sand, 30% silt and 5% clay, cohesive, very well sorted, slightly micaceous.	88.5	#3 Monterey Sand
		0	NR		90					
NM		18	CORE			SP		Olive brown (2.5Y 4/3), fine to medium SAND, 30% fine sand, 70% medium sand, trace rounded 1/2-inch gravel, wet, dense.	93.5	
		0	NR		95	SP-SM		Dark grayish brown (2.5Y 4/2), fine to medium sand, 70% fine sand, 20% medium sand, 10% silt, wet, dense.	94.5	Sch. 40 PVC 0.02-inch Slotted Well Screen (88.7 to 99 feet bgs)
NM		24	CORE			ML		Olive brown (2.5Y 4/3), clayey SILT with trace very fine sand, medium plasticity, moist, stiff, slightly micaceous.	98.0	
		0	NR		100	ML		Dark grayish brown (2.5Y 4/2), fine sandy SILT, 70% silt, 25% fine sand and 5% clay, very slightly plastic, moist to very moist, medium stiff, slightly micaceous, grading into silty very fine sand, slightly micaceous.	99.5	Bentonite Chips and Pellets
NM		54	CORE			ML		Clayey SILT, medium plasticity, very stiff.	102.5	
		0	NR		105	ML		Dark grayish brown to olive brown (2.5Y 4/2 to 2.5Y 4/4), fine sandy SILT, 25% fine sand, 60% silt and 15% clay, trace fine subangular 1/4-inch gravel, slightly mottled.	103.0	
NM		60	CORE					Grading into an olive brown (2.5Y 4/3), very fine to fine sandy CLAY, 50% clay, 30% silt and 20% fine sand, trace subangular to rounded 3/4-inch gravel, very slightly plastic, moist, very stiff to hard. At approximately 107.5 feet, increase in silt and sand, color change to gray and brown (10YR 5/1 and 10YR 5/3).	105.0	
		0	NR		110					
NM		48	CORE			CL			111.0	Medium Bentonite Chips



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/17/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/18/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
NM		60	CORE					Olive brown to gray (2.5Y 4/3 to 10YR 5/1), very fine to fine sandy CLAY, medium plasticity, stiff to very stiff, trace subangular 1/4-inch gravel. Color change at 114 feet bgs to very dark grayish brown (10YR 3/2) with sand, medium to high plasticity. At 120 feet bgs, continuing very fine sandy CLAY, 70% clay, 15% silt and 15% very fine sand, medium plasticity, very stiff to hard. (continued)		
NM		60	CORE		120	CL				
NM					125			Bottom of borehole at 125.0 feet.	125.0	Medium Bentonite Clay





PROJECT NUMBER 20074.515.009.0321

PROJECT NAME Omega OU-02

LOCATION Whittier, CA

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SAMPLING METHOD Continuous 5-foot Core

GROUND ELEVATION 151.78

TOP OF CASING 151.57

LOGGED BY B. Clarke

REMARKS

DATE STARTED 12/10/01

DATE COMPLETED 12/10/01

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUT TYPE/QUANTITY Portland/5% Bentonite / 140 gal.

DEPTH TO WATER 24.4

GROUND WATER ELEVATION 127.4

BORINGWELL CONSTRUCTION LOG OMEGA WELL LOGS GPJ, RFW SHERMAN OAKS GDT 1/22/03

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60	AUGER					Asphalt	0.4	
								Light olive brown (2.5Y 5/4), silty fine SAND, slightly moist to moist, medium dense. Color changes to olive brown (2.5Y 4/3) at 6.5 feet below ground surface (bgs) and changes back to light olive brown at 7.5 feet bgs.		Traffic-rated Vault Rapid-set Concrete
		0	NR		5	SM				
NM		42	CORE						8.0	
								Light olive brown (2.5Y 5/3), fine SAND with trace silt, moist to wet at 10 feet bgs.		
0.4		60	CORE		10	SP			10.5	
								Light yellowish brown to light brownish gray (2.5Y 6/4 to 2.5Y 6/2), clayey SILT, medium elasticity, very moist, medium soft, mottled oxides, pore holes.		
						ML			12.5	
		0	NR		15			Very dark grayish brown (2.5Y 3/2), silty CLAY, slight to medium plasticity, moist, medium stiff to stiff, mottled with white stringers, a few oxide root casts, blocky. Color changes to dark brown (10YR 3/3) at 17 feet bgs and then to dark yellowish brown (10YR 4/4) at 19.5 feet bgs.		
0.1		48	CORE			CL				
0.0		60	CORE		20				20.5	
								Yellowish brown (10YR 5/4), fine sandy SILT, very slight elasticity, moist, medium stiff, slightly mottled, blocky, clayier downward.		Portland Cement Grout with 5% Bentonite
						ML			22.5	
								Dark yellowish brown (10YR 4/4 to 10 YR 3/4), silty CLAY, medium plasticity, blocky, white stringers, phacoidal. Trace fine sand at 25 feet bgs.		Sch. 40 PVC Blank Casing
0.0		0	NR		25	CL				
		54	CORE						27.0	
								Dark grayish brown (2.5Y 4/2), CLAY, abundant light gray and white stringers. Grades into an olive brown (2.5Y 4/3), silty CLAY, very moist, medium stiff.		
						CL				
		0	NR		30			Grayish brown to dark grayish brown (2.5Y to 2.5Y 4/2), clayey to fine sandy silt, very slight elasticity, very moist to wet, medium soft, mottled oxides, stringers, calcite nodules, micaceous. More fine sand at 33 feet bgs, non-plastic.	30.0	
0.0		54	CORE			ML				





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/10/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/10/01

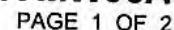
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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0	NR			ML		Grayish brown to dark grayish brown (2.5Y to 2.5Y 4/2), clayey to fine sandy silt, very slight elasticity, very moist to wet, medium soft, mottled oxides, stringers, calcite nodules, micaceous. More fine sand at 33 feet bgs, non-plastic. (continued)		
NM		60	CORE		40	ML		Dark gray to grayish brown (2.5Y 4/1 to 2.5Y 5/2), fine sandy SILT, very slight elasticity, wet, medium soft, mottled yellowish oxides. Grades into SILT, with zero to trace fine sand at 42 feet bgs, medium elasticity, slightly micaceous.	40.0	
						ML		Clayey SILT to SILT, medium elasticity, very moist to wet.	43.0	
		0	NR		45	SP		Dark grayish brown (2.5Y 4/2), fine to medium SAND, trace silt, well sorted, saturated.	44.0	
						ML		(5Y 5/2 to 5Y 5/3) very fine sandy SILT, non-plastic, cohesive	44.5	
		30	CORE			SP		Dark grayish (2.5Y 4/2) fine to medium SAND, saturated, well sorted, medium dense	46.5	
13		0	NR		50	SW		Grayish brown to olive brown (2.5Y 5/2 to 2.5Y 4/3), medium to coarse sand, subangular sand grains, little to some subrounded to subangular 1/2-3-inch gravel, dense, saturated.	48.5	
NM								Bottom of borehole at 53.0 feet.	53.0	

Bentonite Chios

#3 Monterey Sand  
Sch. 40 PVC  
0.02-inch  
Slotted Well  
Screen (43.3 to  
53.3 feet bgs)





GROUND WATER ELEVATION 126.6

REMARKS

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60	AUGER					Landscaped lawn Very dark gray (10YR 3/1), silty SAND, 40% silt and 60% fine sand, soft, moist, no odor.	0.2	<p>Traffic-rated Vault Rapid-set Concrete</p> <p>Portland Cement Grout with 5% Bentonite</p> <p>Sch. 40 PVC Blank Casing</p> <p>Bentonite Pellets</p>
0.2		30	CORE		5	ML-SM		Yellowish brown (10YR 5/6), silty SAND, 20% silt and 80% fine sand, moist, soft, no odor.	5.0	
		30	CORE			SM				
0.2		0	NR CORE		10	ML		Yellowish brown (10YR 5/6), SILT with sand, 15% fine sand and 85% silt, moist to wet, soft, no odor.	9.5	
		24	CORE			CL		Very dark grayish brown (10YR 3/2), CLAY, low to medium plasticity, moist, no odor, some rootlets present. Increase in plasticity to medium at 13.5 feet below ground surface (bgs), still a trace of rootlets.	10.5	
		30	CORE							
0.4		30	CORE		15				15.5	
		30	CORE			SM		Dark yellowish brown (10YR 3/6), silty SAND, 30% silt and 70% fine sand, moist, soft, no odor. Increase clay content at 18.5 feet bgs.	19.0	
0.2		30	CORE		20	SC		Dark grayish brown (10YR 4/2), clayey SAND, 25% clay and 75% fine sand, low plasticity, moist, no odor, trace roots. Color change from 20 to 22 feet bgs to a dark yellowish brown mixed with dark gray (10 YR 4/1) and dark yellowish brown (10YR 4/4).	23.0	
		30	CORE			SC			23.5	
0.2		0	NR CORE		25	SC-CL		Dark yellowish brown (10YR 4/4) clayey SAND, 25% clay, 75% fine to medium sand with trace coarse sand, firm, moist, no odor.	27.0	
		23	CORE					Dark yellowish brown (10YR 4/6), sandy CLAY to clayey SAND, 40% clay and 60% fine to medium sand, medium plasticity, slightly moist, hard, no odor.	28.5	
		0	NR			SC		Reddish brown (5YR 4/3), clayey SAND, 80% fine to medium sand and 20% clay, low plasticity, moist, soft, no odor.		
0.2		15	CORE							
		30	CORE		30	SP		Dark yellowish brown (10YR 4/4) poorly graded SAND, fine to coarse grained (predominantly medium), subrounded, wet, no odor.	31.0	
		0	NR CORE			SP		Trace medium to coarse subrounded gravel at 31, 39, and 43 feet bgs. No significant change observed in the lithology from 32 to 46 feet bgs.		



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/13/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/13/01

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
3.7		30	CORE					Trace medium to coarse subrounded gravel at 31, 39, and 43 feet bgs. No significant change observed in the lithology from 32 to 46 feet bgs. (continued)		
		30	CORE							
1.7		30	CORE		40	SP				
		30	CORE							
1.4		30	CORE		45	SP-SW		Color change to yellowish brown (10 YR 5/4) poorly sorted SAND, increase in coarse sand and subrounded gravel, wet, no odor	45.0	
1.2								Bottom of borehole at 47.5 feet.	47.5	

#3 Monterey Sand  
Sch. 40 PVC  
0.020-inch  
Slotted Well  
Screen (37.1  
47.5 feet bgs)





PROJECT NUMBER 20074.515.009.0321

PROJECT NAME Omega OU-02

LOCATION Whittier, CA

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SAMPLING METHOD Continuous 30-inch Split Spoon

GROUND ELEVATION 143.94

TOP OF CASING 143.65

LOGGED BY T. Mehall

REMARKS

DATE STARTED 12/11/01

DATE COMPLETED 12/12/01

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

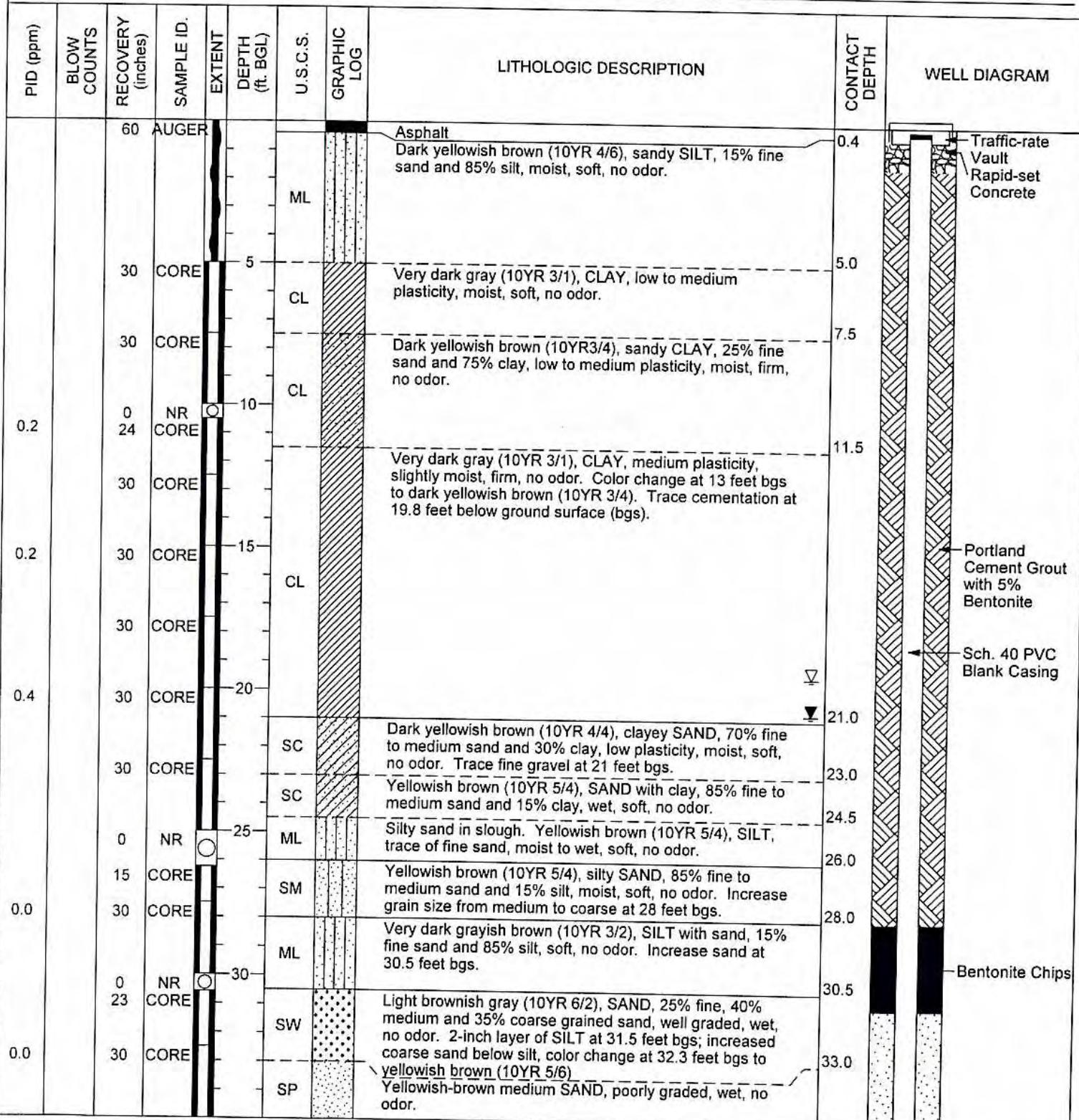
GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUT TYPE/QUANTITY Portland/5% Bentonite / 140 gal.

DEPTH TO WATER 20.8

GROUND WATER ELEVATION 123.2

BORING/WELL CONSTRUCTION LOG OMEGA WELL LOGS.GPJ RFW SHERMAN OAKS GDT 1/22/03







PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/11/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/12/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0		0 23	NR CORE	○		SP		Yellowish-brown medium SAND, poorly graded, wet, no odor. (continued)	36.5	<p>#3 Monterey Sand</p> <p>Sch. 40 PVC 0.020-inch Slotted Well Screen (35.8 to 46 feet bgs)</p>
		0 23	NR CORE	○				Yellowish brown (10YR 5/6), SAND, predominantly subrounded and medium grained, wet, poorly sorted, no odor. Large gravel in sluff at 41 feet bgs.		
		0 28	NR CORE	○	40	SP				
0.0		0 23	NR CORE	○						
0.0		12	CORE	○	45	SW		Light brownish gray (10YR 6/2), SAND with gravel, 25% fine sand, 40% medium sand and 35% coarse sand, subangular fine to coarse gravel, well graded, wet, no odor.	45.0 46.0	
NM								Bottom of borehole at 46.0 feet.		



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/17/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/17/01

LOCATION Whittier, CA

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

SAMPLING METHOD Continuous 5-foot Core

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUND ELEVATION 150.47

GROUT TYPE/QUANTITY Portland/5% Bentonite / 100 gal.

TOP OF CASING 150.25

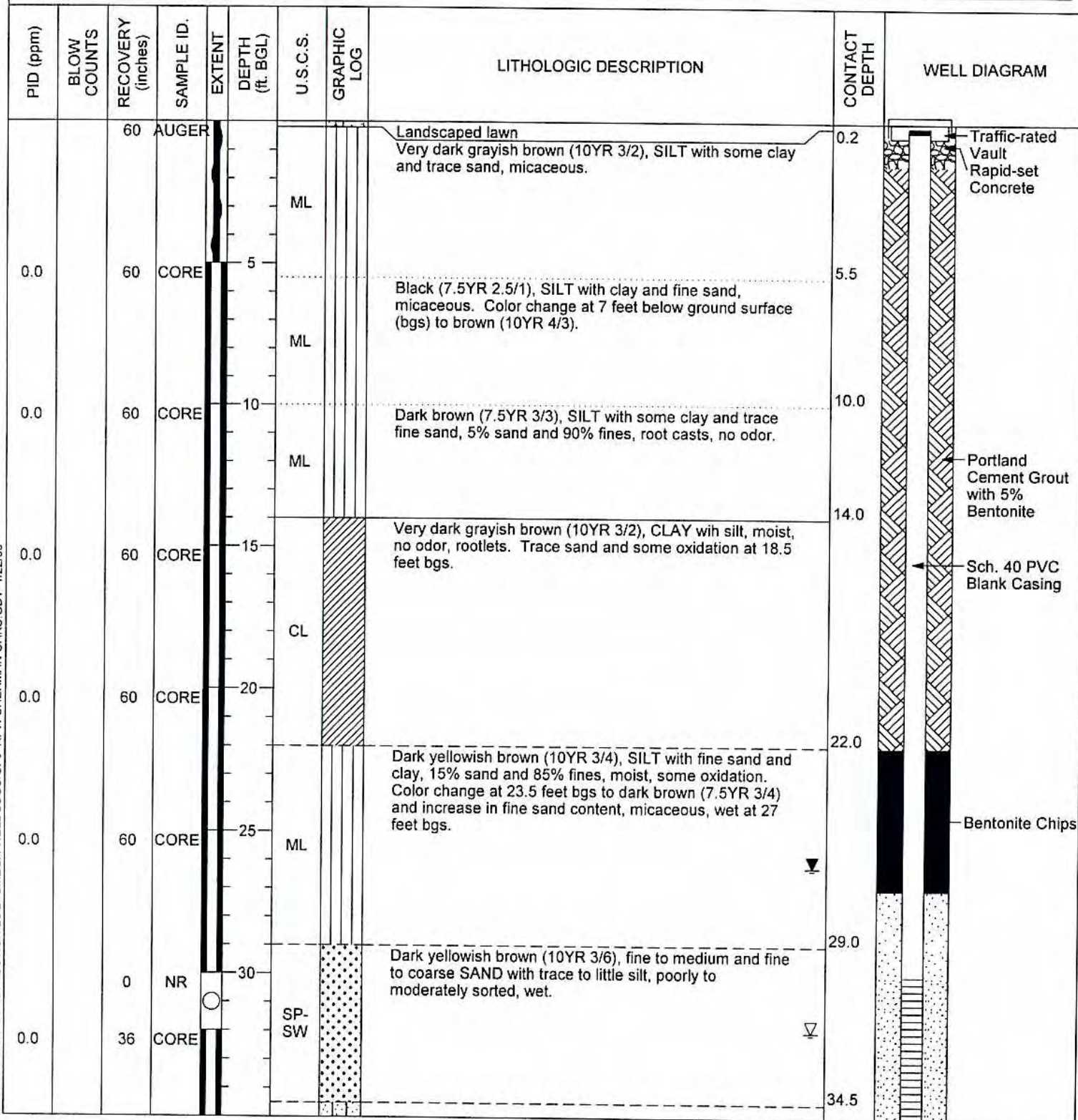
DEPTH TO WATER 26.3

LOGGED BY A. Cohan

GROUND WATER ELEVATION 124.2

REMARKS

BORINGWELL CONSTRUCTION LOG OMEGA WELL LOGS GPJ RPW SHERMAN OAKS GDT 1/22/03







PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/17/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/17/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0	NR			SM		Brown (10YR 4/3), silty fine to medium SAND, wet, no odor, slightly cemented. (continued)		<p>#3 Monterey Sand</p> <p>Sch. 40 PVC 0.020-inch Slotted Well Screen (30 to 45 feet bgs)</p>
0.0		36	CORE			SW		Dark yellowish brown (10YR 3/4), fine to coarse SAND, trace silt, trace subrounded to subangular 1/2-inch gravel, wet.	37.0	
		0	NR		40	SM		Dark yellowish brown (10YR 4/4), silty fine SAND, trace subangular gravel, 1/4-inch gravel clasts, wet, slightly cemented.	38.5	
0.0		30	CORE			SW-SP		Olive brown (2.5Y 4/4), fine to coarse SAND, trace to little silt, poorly sorted, trace 1/2 to 1-inch subrounded gravel. Color change at 44 feet bgs to dark yellowish brown (10YR 3/6); finer sands toward bottom.	42.5	
0.0					45			Bottom of borehole at 45.0 feet.	45.0	



PROJECT NUMBER 20074.515.009.0321

PROJECT NAME Omega OU-02

LOCATION Whittier, CA

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SAMPLING METHOD Continuous 5-foot Core

GROUND ELEVATION 150.35-MW08B and MW08C

TOP OF CASING 150.11 - MW08B; 150.14 - MW08C

LOGGED BY A. Cohan

REMARKS Lithology to 45 feet below ground surface from MW08A

DATE STARTED 12/26/01

DATE COMPLETED 12/26/01

CASING TYPE/DIAMETER Sch. 40 PVC / 2-inch

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

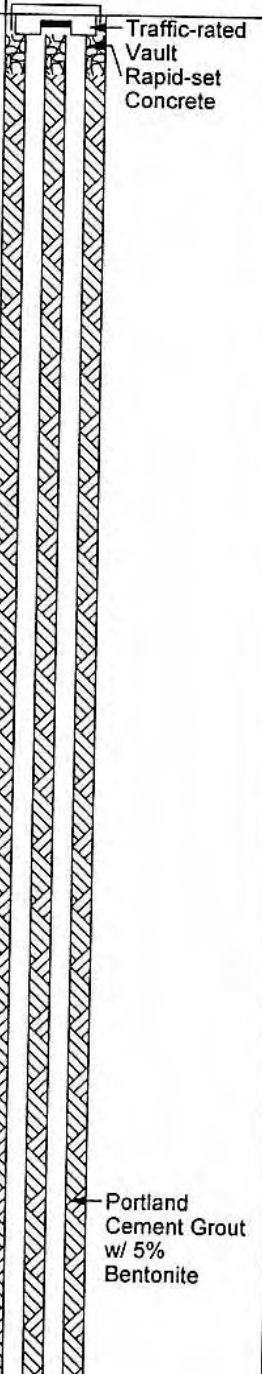
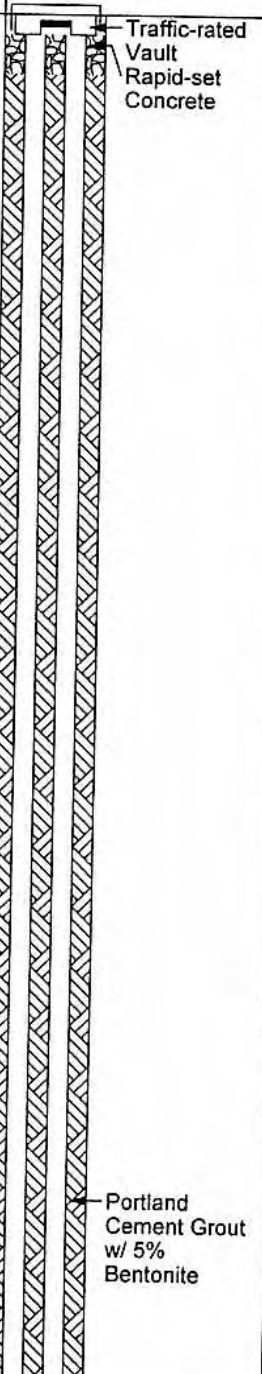
GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUT TYPE/QUANTITY Portland/5% Bentonite / 210 gal.

DEPTH TO WATER 26.8

GROUND WATER ELEVATION

BORINGWELL CONSTRUCTION LOG OMEGA WELL LOGS GPJ RFW SHERMAN OAKS GDT 1/22/03

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60	AUGER					Landscaped lawn Very dark grayish brown (10YR 3/2), SILT with some clay and trace sand, micaceous.	0.2	
0.0		60	CORE		5	ML		Black (7.5YR 2.5/1), SILT with clay and fine sand, micaceous. Color change at 7 feet below ground surface (bgs) to brown (10YR 4/3).	5.5	
0.0		60	CORE		10	ML		Dark brown (7.5YR 3/3), SILT with some clay and trace fine sand, 5% sand and 90% fines, root casts, no odor.	10.0	
0.0		60	CORE		15	CL		Very dark grayish brown (10YR 3/2), CLAY with silt, moist, no odor, rootlets. Trace sand and some oxidation at 18.5 feet bgs.	14.0	
0.0		60	CORE		20					
0.0		60	CORE		25	ML		Dark yellowish brown (10YR 3/4), SILT with fine sand and clay, 15% sand and 85% fines, moist, some oxidation. Color change at 23.5 feet bgs to dark brown (7.5YR 3/4) and increase in fine sand content, micaceous, wet at 27 feet bgs.	22.0	
0.0		0	NR		30	SP-SW		Dark yellowish brown (10YR 3/6), fine to medium and fine to coarse SAND with trace to little silt, poorly to moderately sorted, wet.	29.0	
0.0		36	CORE						34.5	





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/26/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/26/01

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0	NR			SM		Brown (10YR 4/3), silty fine to medium SAND, wet, no odor, slightly cemented. (continued)		
0.0		36	CORE			SW		Dark yellowish brown (10YR 3/4), fine to coarse SAND, trace silt, trace subrounded to subangular 1/2-inch gravel, wet.	37.0	
		0	NR		40	SM		Dark yellowish brown (10YR 4/4), silty fine SAND, trace subangular gravel, 1/4-inch gravel clasts, wet, slightly cemented.	38.5	
0.0		30	CORE					Olive brown (2.5Y 4/4), fine to coarse SAND, trace to little silt, poorly sorted, trace 1/2 to 1-inch subrounded gravel. Color change at 44 feet bgs to dark yellowish brown (10YR 3/6); finer sands toward bottom.	42.5	
0.0		0	NR		45	SW-SP				Sch. 40 PVC Blank Casing
		0	NR		50			Olive brown (2.5Y 4/3), SAND, fine to coarse grained, moist, moderately sorted, soft, grades into more gravel and coarser sand towards lower portion of sample.	50.0	
		0	NR		55	SW				
		24	CORE						59.5	
		0	NR		60	ML		Olive brown (2.5 Y 4/4), clayey SILT with some sand, trace subrounded 1/2-1.5-inch gravel, medium plasticity, wet, medium stiff, slightly micaceous.		Bentonite Pellets
NM		24	CORE			SP-SM		Olive brown (2.5Y 4/3), fine to medium SAND with trace of silt, moderate to well sorted, wet, soft. Silty sand at 65 feet bgs.	63.0	#3 Monterey Sand
		0	NR		65	SM			65.0	
		0	NR							
0.9		18	CORE					Olive brown (2.5Y 4/3), SAND, fine to medium grained, wet, moderate to well sorted, soft, slightly micaceous. Increase in silt content at 73 feet bgs; well sorted.	68.5	
		0	NR		70	SP				Sch. 40 PVC 0.020-inch Slotted Well Screen (65 to 75 feet bgs)
0.8		24	CORE			SM			73.0	



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/26/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/26/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.9		0 48	NR CORE		76.0 79.0	SM		Olive gray (5Y 4/2), clayey SILT, little subrounded 1/4-1/2-inch gravel, wet, medium stiff, micaceous. Color change at 79 feet bgs to dark yellowish brown (10YR 4/4), with increase in fine sand.	76.0	<p>Bentonite Pellets</p> <p>#3 Monterey Sand</p> <p>Sch. 40 PVC 0.02-in Slotted Well Screen (86.7 to 91.7 feet bgs)</p> <p>#3 Monterey Sand</p>
0.8		0 30	NR CORE		79.0 84.0	ML SP		<p>Olive brown (2.5Y 4/4), SAND with some silt, fine to medium grained sand, moderate to well sorting, wet, soft, micaceous.</p> <p>Dark yellowish brown (10YR 4/4), clayey SILT, wet, medium stiff, micaceous. Grades into a very fine sandy SILT at 84 feet bgs with trace clay, medium soft.</p>	82.5 83.5	
0.7		12 0	CORE NR		84.0 90.0	ML SM		Dark olive brown (2.5Y 3/3), silty fine SAND with some clay, wet, soft to medium soft, micaceous.	89.0	
								Bottom of borehole at 93.0 feet.	93.0	







DATE STARTED 12/19/01

DATE COMPLETED 12/19/01

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUT TYPE/QUANTITY Portland/5% Bentonite / 165 gal.

DEPTH TO WATER 30.1

GROUND WATER ELEVATION 120.1

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		540	AUGER					Landscaped lawn Very dark grayish brown (10YR 3/2), SILT with some clay and trace sand, micaceous.	0.2	Traffic-rate Vault Rapid-set Concrete
					5	ML		Black (7.5YR 2.5/1), SILT with clay and fine sand, micaceous. Color change at 7 feet below ground surface (bgs) to brown (10YR 4/3).	5.5	
					10	ML		Dark brown (7.5YR 3/3), SILT with some clay and trace fine sand, 5% sand and 90% fines, root casts, no odor.	10.0	
					15	CL		Very dark grayish brown (10YR 3/2), CLAY with silt, moist, no odor, rootlets. Trace sand and some oxidation at 18.5 feet bgs.	14.0	
					25	ML		Dark yellowish brown (10YR 3/4), SILT with fine sand and clay, 15% sand and 85% fines, moist, some oxidation. Color change at 23.5 feet bgs to dark brown (7.5YR 3/4) and increase in fine sand content, micaceous, wet at 27 feet bgs.	22.0	
					30	SP-SW		Dark yellowish brown (10YR 3/6), fine to medium and fine to coarse SAND with trace to little silt, poorly to moderately sorted, wet.	29.0	
					34.5				34.5	

BORING/WELL CONSTRUCTION LOG OMEGA WELL LOGS GPJ RFW SHERMAN OAKS GDT 1/27/03



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/19/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/19/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0		0	NR			SM		Brown (10YR 4/3), silty fine to medium SAND, wet, no odor, slightly cemented. (continued)	37.0	
						SW		Dark yellowish brown (10YR 3/4), fine to coarse SAND, trace silt, trace subrounded to subangular 1/2-inch gravel, wet.	38.5	
					40	SM		Dark yellowish brown (10YR 4/4), silty fine SAND, trace subangular gravel, 1/4-inch gravel clasts, wet, slightly cemented.		
								Olive brown (2.5Y 4/4), fine to coarse SAND, trace to little silt, poorly sorted, trace 1/2 to 1-inch subrounded gravel. Color change at 44 feet bgs to dark yellowish brown (10YR 3/6); finer sands toward bottom.	42.5	
					45	SW-SP				
NM		60	CORE NR		50	GP		Medium to coarse sandy subangular 2-inch GRAVEL.	49.0	
								Olive brown (2.5Y 4/4), SAND with trace silt and some subangular 1/2-1-inch gravel, medium to coarse grained sand, wet. Color change at 54.5 feet bgs to strong brown (7.5YR 4/6).	50.0	
NM		120	CORE NR		55	SP-SW				
										Portland Cement Grou with 5% Bentonite
										Sch. 40 PVC Blank Casing
		180	CORE NR		60	ML		Dark yellowish brown (10YR 4/4), clayey SILT with a trace of fine sand and some subrounded 1/2-1-inch gravel, slightly plastic, wet, medium stiff.	58.5	
						GP		Sandy GRAVEL, subrounded, 1/4-1/2-inch.	59.5	
								Brown (7.5YR 4/4), clayey SILT, wet, stiff, micaceous. Increase in sand content towards lower portion of sample.	60.0	
NM		420	CORE NR			ML				
								Olive gray to olive (5Y 4/2 to 5Y 5/3), silty fine SAND, wet, stiff, micaceous.	63.0	
					65	SM			64.5	
								Olive gray (5Y 5/2), SAND, fine to medium grained, some silt, wet. Some subrounded 1/2-1-inch gravel and a color change to olive brown (2.5Y 4/4) at 68 feet.	68.0	
						SP			69.0	
		120	CORE NR		70	ML		Dark yellowish gray (10YR 4/4), fine sandy SILT, wet, stiff, micaceous.		
NM		054	CORE NR					Increase in clay content, carbonate patches and partially cemented.	72.0	





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DATE STARTED 12/19/01

DATE COMPLETED 12/19/01

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0	NR					Increase in clay content, carbonate patches and partially cemented. ( <i>continued</i> )		
		12 0	CORE NR		80	ML		Color change by 79 feet bgs to light brown (2.5Y 4/3). Color changes back to dark yellowish brown (10YR 4/4) at 79.5 feet bgs.	79.0	
NM		12 0	CORE NR		85	ML		Fine sandy SILT as above. Color change to dark olive brown (2.5Y 3/3), medium soft.	84.0	
		36	CORE					Very dark grayish brown (2.5Y 3/2), SAND, fine to medium, little silt, trace gravel, wet, soft.	87.0	
NM		60	CORE		90	SP				
								Dark yellowish brown (10YR 3/4), silty CLAY, wet, stiff, moderately cemented, micaceous. Color changes to dark brown (7.5YR 3/3) at 95.5 feet bgs and is partially cemented.	93.0	
NM		60	CORE		95	CL- ML		Dark brown (7.5YR 3/3), fine sandy SILT, wet, medium stiff, partially cemented, micaceous.	96.5	
						ML				
NM		60	CORE		100			Silty fine SAND, medium soft, wet, micaceous	101.0	
						SM				
								Brown (10YR 4/3), SAND, fine to medium, trace silt, wet, medium soft, micaceous. Grading into fine to very fine sand at 106 feet bgs.	103.5	
NM		60	CORE		105	SP				
								Brown (10YR 4/3), silty CLAY, medium stiff, partially cemented, micaceous.	108.0	
						CL- ML		Dark yellowish brown (10YR 3/6) to dark olive gray (5Y 3/2), SAND, fine grained, trace silt, wet, micaceous, odor.	109.3	
NM		60	CORE		110	SP				
										Bentonite Pellets
										#3 Monterey Sand
										Sch. 40 PVC 0.020-inch Slotted Well Screen (110 to 120 feet bgs)





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/19/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/19/01

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0 54	NR CORE					Dark olive gray (5Y 3/2), SAND, fine grained, trace silt, wet, soft, micaceous, odor. At 122 feet bgs some medium grained sands and some subrounded 1/4-1/2-inch gravel.	115.5	<p>Sch. 40 PVC 0.020-inch Slotted Well Screen (110 to 120 feet bgs)</p> <p>#3 Monterey Sand</p>
NM		60	CORE		120	SP				
								Small lens of CLAY, wet, medium soft. Dark olive gray (5Y 3/2), SAND as seen above. Dark yellowish brown (10YR 4/6) oxidized layer at 125 feet bgs. Trace of subrounded 1/4-1/2-inch gravel at 126.5 feet bgs.	122.0 122.5 122.7	
NM		60	CORE		125	CL				
NM		60	CORE		130	SP				<p>Bentonite Chips Backfill</p>
NM		60	CORE		135					
		0 54	NR CORE		140			Fine to coarse SAND, some gravel	141.0	
						SW				
								Clayey SILT, cemented, with subrounded 1/8-1/4-inch gravel layer.	143.5	
						ML		SAND, fine to medium grained, some gravel, wet, soft. Some coarse sand at approximately 147 bgs.	145.0	
NM		60	CORE		145	SP				
								Fine sandy SILT, wet, medium soft.	149.0	
						ML			150.0	
					150			Bottom of borehole at 150.0 feet.		





PROJECT NUMBER 20074.515.009.0321

PROJECT NAME Omega OU-02

LOCATION Whittier, CA

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SAMPLING METHOD Continuous 5-foot Core

GROUND ELEVATION 149.51

TOP OF CASING 149.37

LOGGED BY A. Cohan

DATE STARTED 12/28/01

DATE COMPLETED 12/28/01

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUT TYPE/QUANTITY Portland/5% Bentonite / 50 gal.

DEPTH TO WATER 24.9

GROUND WATER ELEVATION 124.6

REMARKS Lithology and sampling detail to 65 feet below ground surface from MW09B

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
			AUGER					Landscaped lawn Dark yellowish brown (10YR 4/4), SILT, soft, moist, no odor.	0.2	Traffic-rated Vault Rapid-set Concrete
					5	ML				
					10	CL		Brown (10YR 4/3), fine sandy CLAY, 20% fine sand and 80% clay, medium plasticity, moist, soft, no odor, roots present. Color change at 12 feet below ground surface (bgs) to dark reddish brown (5YR 4/3), and trace cementation at 13 feet bgs.	8.3	Portland Cement Grout with 5% Bentonite
					15	ML		Dark reddish brown (5YR 4/3), fine sandy SILT, 15% fine sand and 85% silt, slightly moist, soft, no odor. At 16 feet bgs, color changes to grayish brown (10YR 5/2), increase consistency to firm, and decrease in moisture. At 18 feet bgs, increase in moisture, decrease consistency to soft, and slight black discoloration from 19.5 to 20 feet bgs.	14.5	Sch. 40 PVC Blank
					20	SM		Dark yellowish brown (10YR 4/4), silty SAND, 25% silt and 75% fine sand, slightly moist, soft, no odor.	21.0	Bentonite Chips
					22.5	ML		Dark reddish brown (10YR 4/3) sandy SILT, 15% fine sand, 85% silt, soft, slightly moist, no odor.	22.5	
					23.5	SP		Yellowish brown (10YR 5/6), SAND, fine to medium grained, subrounded, poorly sorted, slightly moist, no odor. At 25.5 feet bgs, color change to grayish brown (10YR 5/2) and increase in moisture.	23.5	
					25					
					29.0	ML		Brown (10YR 4/3), fine sandy SILT, 15% fine sand and 85% silt, wet, soft, no odor.	29.0	#3 Monterey Sand
					32.5	SM		Dark grayish brown (10YR 4/2), silty SAND, 20% silt and 80% fine sand, wet, soft, no odor.	32.5	Sch. 40 PVC 0.020-inch Slotted Well Screen (25 to 35 feet bgs)
					33.5	ML-SM		Dark grayish brown (10YR 4/2), sandy SILT to silty SAND, 50% silt and 50% fine sand, moist to wet, firm, no odor.	33.5	





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/28/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/28/01

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
						ML-SM		Dark grayish brown (10YR 4/2), sandy SILT to silty SAND, 50% silt and 50% fine sand, moist to wet, firm, no odor. (continued)	38.0	
					40	ML		At 38 feet bgs, cementation and decrease in moisture content	41.0	
					45	ML		At 41 feet bgs, trace cementation, increase consistency to hard, increase clay content and color change to light brownish gray (10YR 6/2).	46.0	
						SC		Dark yellowish brown (10YR 4/6), clayey SAND, 40% clay and silt and 60% fine sand, low plasticity, moist, no odor.	48.0	
					50	CL		Yellowish brown (10YR 5/4), sandy CLAY, 40% clay, 60% fine sand, medium plasticity, moist, hard, no odor, trace cementation. 1/4-inch fine sand lense at 48.5 feet bgs.	53.0	
					55	SP		Grayish brown (10YR 5/2), SAND, poorly graded, predominantly medium grained, wet, soft, no odor. At 55.5 feet bgs, decrease in grain size to predominantly fine.	61.0	
					60					
					65	CL		Dark grayish brown (10YR 4/2), sandy CLAY, 20% sand and 80% clay, medium plastic, moist to wet, no odor.	68.0	
		0	NR							
		24	CORE			SP-SM		Olive brown (2.5Y 4/3), silty SAND, fine to medium, some clay, 75% sand and 25% fines, wet, poorly sorted, soft, micaceous.	71.0	
		0	NR		70					
		48	CORE			CL-ML		Dark yellowish brown (10YR 4/4), silty CLAY, low to medium plasticity, wet, medium stiff, micaceous.	74.5	

Bentonite Pellets Backfi





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/28/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/28/01

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0	NR					Light olive brown (2.5Y 5/4), CLAY. Similar to above, but less silt and some oxidation. Non-recovery indicates possible sand. (continued)		
		0	NR		80	CL				
NM		42	CORE			CL-ML		Olive brown (2.5Y 4/4), silty CLAY, similar to 71 to 74.5 feet bgs.	81.5	
						ML		Olive brown (2.5Y 4/4), fine sandy SILT, wet, soft, very micaceous.	83.5	
		0	NR		85	SP		Olive brown (2.5Y 4/3), SAND, fine to medium, wet, moderately sorted, soft.	83.6	
					90			Bottom of borehole at 90.0 feet.	90.0	







PROJECT NUMBER 20074.515.009.0321

PROJECT NAME Omega OU-02

LOCATION Whittier, CA

DRILLING METHOD Hollow Stem Auger, 10-inch Diameter

SAMPLING METHOD Continuous 5-foot Core

GROUND ELEVATION 149.56

TOP OF CASING 149.34

LOGGED BY T. Mehall

REMARKS

DATE STARTED 12/14/01

DATE COMPLETED 12/14/01

CASING TYPE/DIAMETER Sch. 40 PVC / 4-inch

SCREEN TYPE/SLOT Sch. 40 PVC / 0.020-inch

GRAVEL PACK TYPE #3 Monterey Sand/8 cu. ft.

GROUT TYPE/QUANTITY Portland/5% Bentonite / 150 gal.

DEPTH TO WATER 27.7

GROUND WATER ELEVATION 121.9

BORINGWELL CONSTRUCTION LOG OMEGA WELL LOGS.GPJ RFW SHERMAN OAKS.GDT 1/22/03

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60	AUGER					Landscaped lawn Dark yellowish brown (10YR 4/4), SILT, soft, moist, no odor.	0.2	Traffic-rate Vault Rapid-set Concrete
0.0		60	CORE		5	ML				
0.0		60	CORE		10	CL		Brown (10YR 4/3), fine sandy CLAY, 20% fine sand and 80% clay, medium plasticity, moist, soft, no odor, roots present. Color change at 12 feet below ground surface (bgs) to dark reddish brown (5YR 4/3), and trace cementation at 13 feet bgs.	8.3	
0.0		60	CORE		15	ML		Dark reddish brown (5YR 4/3), fine sandy SILT, 15% fine sand and 85% silt, slightly moist, soft, no odor. At 16 feet bgs, color changes to grayish brown (10YR 5/2), increase consistency to firm, and decrease in moisture. At 18 feet bgs, increase in moisture, decrease consistency to soft, and slight black discoloration from 19.5 to 20 feet bgs.	14.5	
0.0		0	NR		20					
0.0		48	CORE			SM		Dark yellowish brown (10YR 4/4), silty SAND, 25% silt and 75% fine sand, slightly moist, soft, no odor.	21.0	
						ML		Dark reddish brown (10YR 4/3) sandy SILT, 15% fine sand, 85% silt, soft, slightly moist, no odor.	22.5	
		0	NR		25	SP		Yellowish brown (10YR 5/6), SAND, fine to medium grained, subrounded, poorly sorted, slightly moist, no odor. At 25.5 feet bgs, color change to grayish brown (10YR 5/2) and increase in moisture.	23.5	Portland Cement Grout with 5% Bentonite
0.0		30	CORE							Sch. 40 PVC Blank Casing
		0	NR		30	ML		Brown (10YR 4/3), fine sandy SILT, 15% fine sand and 85% silt, wet, soft, no odor.	29.0	
0.0		30	CORE			SM		Dark grayish brown (10YR 4/2), silty SAND, 20% silt and 80% fine sand, wet, soft, no odor.	32.5	
						ML-SM		Dark grayish brown (10YR 4/2), sandy SILT to silty SAND, 50% silt and 50% fine sand, moist to wet, firm, no odor.	33.5	





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/14/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/14/01

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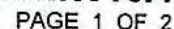
PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0		60	CORE			ML-SM		Dark grayish brown (10YR 4/2), sandy SILT to silty SAND, 50% silt and 50% fine sand, moist to wet, firm, no odor. (continued)		
NM		60	CORE		40	ML		At 38 feet bgs, cementation and decrease in moisture content	38.0	
						ML		At 41 feet bgs, trace cementation, increase consistency to hard, increase clay content and color change to light brownish gray (10YR 6/2).	41.0	
NM		60	CORE		45	ML				
						SC		Dark yellowish brown (10YR 4/6), clayey SAND, 40% clay and silt and 60% fine sand, low plasticity, moist, no odor.	46.0	
						CL		Yellowish brown (10YR 5/4), sandy CLAY, 40% clay, 60% fine sand, medium plasticity, moist, hard, no odor, trace cementation. 1/4-inch fine sand lense at 48.5 feet bgs.	48.0	
NM		0	NR		50	CL				
		36	CORE							
		0	NR		55	SP		Grayish brown (10YR 5/2), SAND, poorly graded, predominantly medium grained, wet, soft, no odor. At 55.5 feet bgs, decrease in grain size to predominantly fine.	53.0	
NM		18	CORE							
		60	CORE		60					
						CL		Dark grayish brown (10YR 4/2), sandy CLAY, 20% sand and 80% clay, medium plastic, moist to wet, no odor.	61.0	
0.0					65			Bottom of borehole at 65.0 feet.	65.0	

Bentonite Pellets

#3 Monterey Sand

Sch. 40 PVC 0.020-inch Slotted Well Screen (49.8 to 60 feet bgs)





REMARKS

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60	AUGER					Asphalt Very dark brown (10YR 2/2), silty CLAY, roots, micaceous.	0.4	<p>Traffic-rated Vault Rapid-set Concrete</p>
0.0		0	NR		5	CL-ML				
		48	CORE						8.0	
0.0		60	CORE		10	ML		Dark yellowish brown (10YR 3/4), fine sandy SILT, 20% sand and 80% fines, slightly cemented, roots.		
						SM		Dark yellowish brown (10YR 4/4), silty fine SAND, 80% sand and 20% fines, moist, very micaceous.	10.0	
						ML		Dark yellowish brown (10YR 3/4), fine sandy SILT, similar to previous, darker, slight cementation.	11.0	
		0	NR		15			Dark yellowish brown (10YR 4/4), SILT with fine to medium sand and some clay, 15% sand and 85% fines, micaceous.	14.0	
0.0		24	CORE						18.4	
		0	NR		20			Dark yellowish brown (10YR 3/4), SAND, 1% gravel, 90% sand and 9% fines, fine to medium grained, poorly sorted, trace 1.5 inch subrounded gravel, moist, no odor. At 23 feet bgs, increase in gravel content; subrounded 1/2 to 1-inch, trace silt. At 28 feet bgs, increase in sand grain size from medium to coarse.		
0.0		30	CORE			SP				
		0	NR		25					<p>Portland Cement Grout with 5% Bentonite</p> <p>Sch. 40 PVC Blank Casing</p>
0.0		24	CORE						28.0	
		0	NR		30	SP				
0.0		18	CORE			SW			33.5	





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/18/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/18/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0		0	NR			SW		Dark brown (10YR 3/3), gravelly SAND, subrounded 1/2 to 2-inch clasts, fine to coarse grained sand, trace silt, wet, no odor. (continued)		
		30	CORE						37.5	
		0	NR		40	SP		Very dark grayish brown to dark olive brown (2.5Y 3/2 to 2.5Y 3/3), SAND with trace to some silt, trace subangular 1/2 to 1 inch gravel, 1% gravel, 4% fines and 95% sand, fine to medium grained sand, moderately sorted, wet, no odor, micaceous.		
0.0		24	CORE						43.0	
		0	NR		45	SP-SM				
0.0		24	CORE						48.5	
		0	NR		50	SW		Dark brown (10YR 3/3), gravelly SAND, 1/8 to 1 inch subrounded gravel, 10% gravel, 85% sand and 5% fines, poorly sorted, wet, no odor, micaceous. Few small lenses of strong brown (7.5YR 4/6), SILT.		
0.0		36	CORE			CL-ML		Dark yellowish brown (10YR 4/4), silty CLAY with trace gravel, 3% gravel, 2% sand, and 95% fines, wet, slightly cemented, micaceous.	52.0	
		0	NR		55				54.0	
0.0		54	CORE			SW		Olive brown (2.5Y 4/3), SAND, fine to coarse grains, trace silt, 5% fines and 95% sand, poorly sorted, wet, no odor, micaceous. At 57.5 feet bgs, some subrounded 1/4 to 1/2 inch-gravel.		
		0	NR		60	SM		Dark yellowish brown (10YR 4/4), silty SAND, trace clay.	59.0	
0.0		36	CORE			CL-ML		Dark yellowish brown (10YR 3/6), silty CLAY, some oxidation, micaceous.	62.0	
0.0					65			Bottom of borehole at 65.0 feet.	65.0	

Bentonite Pellets

#3 Monterey Sand

Sch. 40 PVC 0.020-inch Slotted Well Screen (52 to 62 feet bgs)



PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/13/01

PROJECT NAME	Omega OU-02
--------------	-------------

DATE COMPLETED 12/13/01

**LOCATION** Whittier, CA

**CASING TYPE/DIAMETER** Sch. 40 PVC / 4-inch

DRILLING METHOD      Hollow Stem Auger, 10-inch Diameter

**SCREEN TYPE/SLOT** Sch. 40 PVC / 0.020-inch

<b>SAMPLING METHOD</b>	Continuous 5-foot Core
------------------------	------------------------

GRAVEL PACK TYPE	#3 Monterey Sand/8 cu. ft.
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GROUND ELEVATION 151.51

<b>GROUT TYPE/QUANTITY</b>	Portland/5% Bentonite / 140 gal.
----------------------------	----------------------------------

TOP OF CASING	151.20
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DEPTH TO WATER 34.4

LOGGED BY A. Cohan

**GROUND WATER ELEVATION** 117.2

REMARKS

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60	AUGER					Landscaped lawn Brown (10YR4/3), SILT with a trace of clay, micaceous. At 7.0 feet bgs, trace subangular 1/2-inch gravel.	0.2	<p>Traffic-rated Vault Rapid-set concrete</p> <p>Portland Cement Grout with 5% Bentonite</p> <p>Sch. 40 PVC Blank Casing</p> <p>Bentonite Chips</p>
		0	NR		5	ML			7.4	
NM		48	CORE			ML		Light olive brown (2.5Y 5/3), sandy SILT, slightly moist.	9.0	
		60	CORE		10	ML		Dark yellowish brown (10YR 4/4) to light olive brown (2.5Y 5/3) SILT, to trace clay, slightly moist, micaceous. Olive brown (2.5Y 4/3) clayey SILT, moist, micaceous, mottled with oxides. 6-inch olive brown sand lens at 13 feet bgs, fine grained, some silt, well sorted, slightly micaceous. Cementation and root casts at 16.5 feet bgs.	10.0	
0.0		60	CORE		15	ML				
0.0		60	CORE		20	SM		Light olive brown (2.5Y 5/3), silty very fine SAND.	18.0	
0.0		60	CORE		25	ML		Olive brown (2.5Y 4/4), SILT with trace to little fine sand and trace clay, mottled, some cemented areas. At 24 feet bgs, color change to dark gray (5Y 4/1), slight fuel-like odor. At 25.5 feet bgs, increase in sand content, grading back to silt at 27.5 feet bgs. Some oxidation.	19.7	
2.3		60	CORE		30	ML			28.0	
		0	NR		30			Dark yellowish brown (10YR 3/4), fine SAND, trace silt and trace clay, 90% sand and 10% fines, very well sorted, moist. At 32.5 feet bgs, fine to medium sand, with trace fines. Color change at 34 feet bgs to olive brown (2.5Y 4/3). At 38.6 feet bgs, pale olive (5Y 6/3), and wet.		
0.0		36	CORE			SP				





PROJECT NUMBER 20074.515.009.0321

DATE STARTED 12/13/01

PROJECT NAME Omega OU-02

DATE COMPLETED 12/13/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0	NR			SP		Dark yellowish brown (10YR 3/4), fine SAND, trace silt and trace clay, 90% sand and 10% fines, very well sorted, moist. At 32.5 feet bgs, fine to medium sand, with trace fines. Color change at 34 feet bgs to olive brown (2.5Y 4/3). At 38.6 feet bgs, pale olive (5Y 6/3), and wet. (continued)	▽	
		18	CORE						39.0	
		0	NR		40	SP-SW		Dark gray (5Y 4/1), gravelly SAND, medium to coarse grained sand, 80% sand and 20% subrounded 1.5-inch gravel, wet.	41.0	
0.0		36	CORE					Dark olive gray (5Y 3/2), SAND with some gravel, 90% medium to coarse sand, 10% gravel, trace silt moderately sorted. At 44.8 feet bgs, silty sand lens. At 48 feet bgs, olive gray (5Y 4/2) fine to coarse sand.		
		0	NR		45	SP-SW				
		30	CORE						49.5	
0.0		0	NR		50	GP		Sandy GRAVEL with some silt and trace clay, 70% gravel, 20% sand and 10% fines, gravel is subrounded and predominantly 1/2-inch in diameter, partially cemented.	51.5	
		42	CORE			ML		Olive (5Y 4/4), clayey SILT, 1% sand and 99% fines, very small lenses of sandy gravel, micaceous.	53.5	
0.0					55	GM		Silty GRAVEL, some sand and trace clay, 80% gravel, 5% sand and 15% fines, gravel is predominantly subrounded and 1/2 to 1-inch in diameter.	55.0	
								Bottom of borehole at 55.0 feet.		

#3 Monterey Sand

Sch. 40 PVC 0.020-inch Slotted Well Screen (40 to 50 feet bgs)



# LOG OF BORING MW12

(Page 1 of 5)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: August 9, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern	Driller	: Dan
Checked By	: Ronald Halpern	Drilling Method	: Sonic
Drilling Company	: WDC	Diameter	: 6 1/4"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
0									Concrete to approximately 6".	Cover
0.5-8'							CL		SILTY CLAY, stiff, slightly moist, dark yellowish brown (10YR 4/4), no odor.	Surface Casing Concrete
10:30					0.0				Same as above.	
9.5-11'					0.0		GW-GM		Well graded GRAVEL with Sand and Silt, ~60-70% fine and coarse Gravel (max 55 mm dia.), ~25-30% fine to coarse well graded Sand, ~10% Silt, dark yellowish brown (10YR 4/4), no odor, Gravel and Sand subangular to subrounded	95% Cement/ 5% Bentonite
14-19'					0.0	None	CH		High plasticity, CLAY, very stiff, moist, dark grayish brown (10YR 3/2), no odor, high toughness, high liquid limit, very plastic, no dilatancy.	2" Dia. Sch. 80 PVC
11:10					0.0				Same as above.	
11:24					0.0					











In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

# LOG OF BORING MW12

(Page 2 of 5)

 Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed	: August 9, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern	Driller	: Dan
Checked By	: Ronald Halpern	Drilling Method	: Sonic
Drilling Company	: WDC	Diameter	: 6 1/4"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
25					0.0		CH		Same as above.	
					0.0		SP-SC		27-29' core: Poorly graded SAND with Clay and Gravel, ~35-50% predominantly fine subangular Gravel (<=20 mm dia.), ~55-60% fine and coarse Sand (gap grades), ~5% Clay, dry, dark yellowish brown (10YR 4/6), no odor, Gravel sub-spherical and subrounded of granitic origin.	
30				12:02	0.0		SC-CL		30-31.5' core: CLAYEY SAND with Gravel, 20% fine and coarse subrounded Gravel (max 35 mm dia.), ~40% predominantly well fine to coarse Sand (subrounded) in 40% Silty Clay matrix, dense, moist, brown (10YR 4/3), caliche and brownish yellow (10YR 6/8) patches, (conglomerate).	
				12:29	0.0		SC-CL			
					1.5		SC		34-36': Same as above.	
35				13:10			SC		37-39' core: Same as above.	
					0.3		SC			
				13:30	1.0				39-44' core: Low plasticity SILT, stiff, moist, brown (7.5YR 4/4), occasional fine Gravel.	
40					23					
					46					
							ML			
				14:30	52		ML		44-47.5': SILTY CLAY with Sand, ~5% fine subangular Gravel (max 15 mm dia.), ~10% fine to coarse Sand (max 5 mm dia.), ~85% fines, brown (7.5YR 4/2), moist, stiff, no odor, moderate to high toughness, moderate plasticity.	
45										
				8/8/05						
							CL			
50										

 Well: MW12  
 Elev.: 221.23

 95% Cement/  
 5% Bentonite  
 2" Dia. Sch. 80  
 PVC

In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.





# LOG OF BORING MW12

(Page 4 of 5)

Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed : August 9, 2005  
 Logged By : Ronald Halpern  
 Checked By : Ronald Halpern  
 Drilling Company : WDC  
 Drill Rig : Sonic SpeedStar 15K

OVA : MiniRae  
 Driller : Dan  
 Drilling Method : Sonic  
 Diameter : 6 1/4"  
 Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
75									Same as above - no caliche.	95% Cement/ 5% Bentonite
80							CL			2" Dia. Sch. 80 PVC
85				14:53			ML		At 85', SILT, soft (>1" penetration), moist to wet, dark brown (7.5YR 3/4).	Bentonite Med. Chips
86.5							SC		From 86.5-89': CLAYEY SAND/SANDY CLAY, ~45-55% very fine Sand (<0.1 mm), soft, wet to saturated, strong brown (7.5YR 4/6), trace fine Gravel, low toughness, rapid dilatency.	Sand #30
89							CL		From 89' CLAY/CLAY with SAND, ~15% fine Sand, 85% Silty Clay, medium stiff, wet, strong brown (7.5YR 4/4) to dark brown (7.5YR 3/4).	2" Dia. PVC Sch 80 (0.020" Slotted Screen)
95							CL		Same as above, trace fine-Gravel, occasional coarse, wet to saturated.	
100									Same as above, wet to saturated, ~10-15% fine Sand, ~15% Silt, ~10% Clay, medium stiff, wet to saturated, dark brown (7.5YR 3/2), low to medium toughness, low plasticity, high dry strength.	2" Dia. Sch. 80 PVC Blank

In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.



**ARCADIS**

Infrastructure, environment, facilities

**LOG OF BORING MW12**

(Page 5 of 5)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : August 9, 2005

OVA : MiniRae

Logged By : Ronald Halpern

Driller : Dan

Checked By : Ronald Halpern

Drilling Method : Sonic

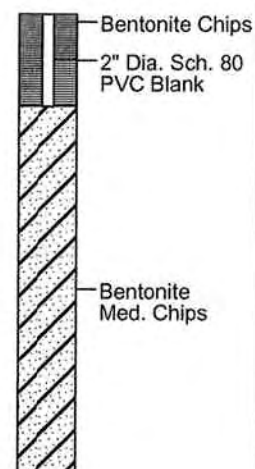
Drilling Company : WDC

Diameter : 6 1/4"

Drill Rig : Sonic SpeedStar 15K

Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: MW12 Elev.: 221.23
100				16:00						
			OC2-PMW12 W-0-03	8/9/05 08:05			SP-SM		From 101-102' set Simulprobe: Poorly graded SAND, with SILT, ~10-20% Silt, 80-90% fine Sand, soft, saturated, brown (10YR 4/3), to dark brown (10YR 3/3), occasional fine and coarse gravel (max 60 mm dia. - subrounded and longated).	
105										
							SM		From 107-109' core: Cemented, well-graded SILTY SAND with Gravel, ~30% Silt, ~45% fine to coarse Sand, ~25% fine and coarse Gravel (max 40 mm dia.), hard, dry mottled brown (7.5YR 4/4), light gray (10YR 7/1) and reddish orange.	
110									Bottom of boring at 110'.	
115										
120										
125										



In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

# LOG OF BORING MW13

(Page 1 of 3)

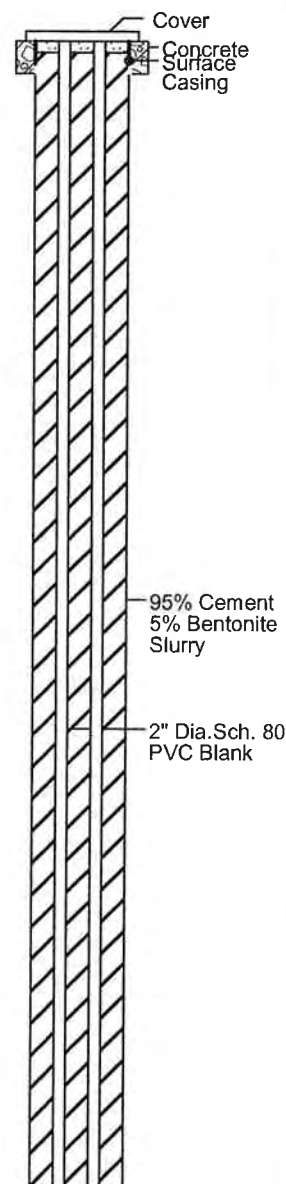
Omega Chemical Operable Unit 2  
Whittier & Santa Fe Springs  
Project No. CA000646.0001

Date Completed : July 1, 2005  
Logged By : Ronald Halpern  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : GEFCO Star 30K

OVA : MiniRae  
Driller : Steve Houston  
Drilling Method : Mud Rotary  
Diameter : 10"  
Calibration Gas/Conc : Isobutylene 100

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
0									Concrete to 6"
5				6/29/05	0.1				(Off cyclone). SILTY CLAY, firm to stiff, dark brown (10YR 3/3), moist.
10									
15									
20				12:46					Same as above. Approximately 5% fine to coarse SAND.
25							CL		
30	⊗	N/A		13:38	0.1				(30-31' Split Spoon). SILTY CLAY, stiff, dark yellowish brown (10YR 4/4), moist, moderate to high toughness, no dilatency, high plasticity, occasional fine gravel (max 20 mm dia.) and coarse sand (max 4 mm dia.).
35									
40	⊗	N/A		14:30	0.1				(40-41' Split Spoon). SILTY CLAY, stiff, dark yellowish brown (10YR 4/4), moist, high toughness, high plasticity, slow dilatency.
45									
50									

Well1: MW13A  
Well2: MW13B  
Elev.: 206.30



Boring in front of Fred Rippey at 12482 Putnam Street. Elevation noted is ground surface.  
A = shallow (dry); B = deeper.




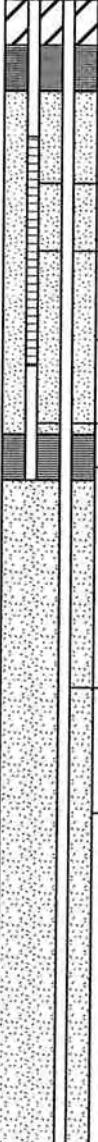




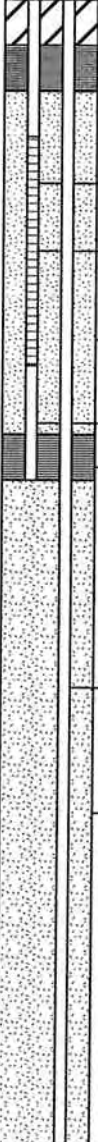

# LOG OF BORING MW13

(Page 2 of 3)

 Omega Chemical Operable Unit 2  
 Whittier & Santa Fe Springs  
 Project No. CA000646.0001

 Date Completed : July 1, 2005  
 Logged By : Ronald Halpern  
 Checked By : Ronald Halpern  
 Drilling Company : WDC  
 Drill Rig : GEFCO Star 30K

 OVA : MiniRae  
 Driller : Steve Houston  
 Drilling Method : Mud Rotary  
 Diameter : 10"  
 Calibration Gas/Conc : Isobutylene 100

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
50	⊗			16:20	0.1		CL		(50-51' Split Spoon). SILTY CLAY, hard, dark yellowish brown (10YR 4/4), moist.	 95% Cement 5% Bentonite Slurry Medium Bentonite Chips 2" Dia. Sch. 80 PVC Blank 2" Dia. PVC Sch 80 (0.020" Slotted Screen) #2/16 Sand 2" Dia. Sch. 80 PVC Blank Medium Bentonite Chips 2" Dia. Sch. 80 PVC Blank 1:1 Bentonite Sand Mix
55										
60	⊗			16:55			ML-SP		(60.75' Split Spoon). Low plasticity, SILT/poorly graded Sand, very fine-grained, stiff, olive (5Y 4/4), moist, low toughness, rapid dilatency, low plasticity, low dry strength, light gray artifacts, possibly of marine origin, light yellowish brown oxidation stain (~1/4" thick).	
65							SP		From approx. 63' off shaker - poorly graded Sand, fine-grained, olive.	
70	⊗			17:25 6/29/05 Start 6/30/05			ML-CL		(70-71' Split Spoon). CLAYEY SILT, stiff, light olive brown (2.5Y 5/4), moist, moderate to high toughness, moderate plasticity, slow to moderate dilatency, light gray artifacts (possible marine shells?), low to moderate strength.	
75										
80	⊗			07:50			CH		(80-81' Split Spoon). SILTY CLAY, hard, yellowish brown (10YR 5/4), moist, high toughness, moderate to high liquid limit, no dilatency, high plasticity, high dry strength.	
85	⊗			08:30						 95% Cement 5% Bentonite Slurry Medium Bentonite Chips 2" Dia. Sch. 80 PVC Blank 2" Dia. PVC Sch 80 (0.020" Slotted Screen) #2/16 Sand 2" Dia. Sch. 80 PVC Blank Medium Bentonite Chips 2" Dia. Sch. 80 PVC Blank 1:1 Bentonite Sand Mix
90	⊗			09:20			CL		(85-86' Split Spoon). CLAYEY SILT/SILTY CLAY, very stiff, (<1/4" penetration), brown (7.5YR 4/3), moist, low to moderate toughness, moderate plasticity.	
95	⊗			09:45					(90-91' Split Spoon). CLAYEY SILT/SILTY CLAY, very stiff, brown (7.5 YR 4/4), moist, low to moderate toughness, low plasticity, slow dilatency.	
100									(95-96' Split Spoon). CLAYEY SILT/SILTY CLAY, very stiff, brown (7.5 YR 4/4), moist, low to moderate toughness, low plasticity, slow dilatency.	

 Boring in front of Fred Rippey at 12482 Putnam Street. Elevation noted is ground surface.  
 A = shallow (dry); B = deeper.

# LOG OF BORING MW13

(Page 3 of 3)

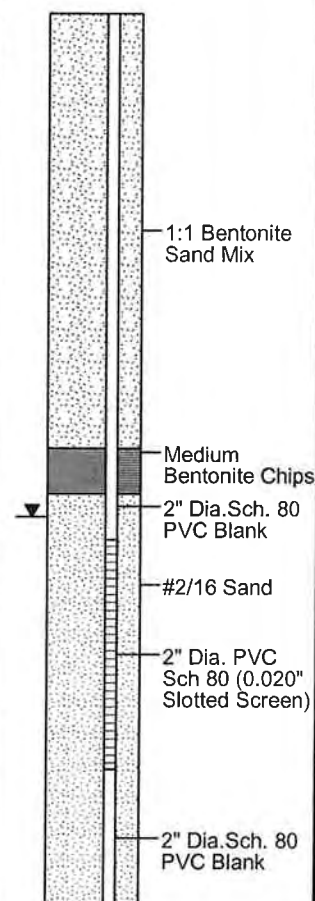
Omega Chemical Operable Unit 2  
Whittier & Santa Fe Springs  
Project No. CA000646.0001

Date Completed : July 1, 2005  
Logged By : Ronald Halpern  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : GEFCO Star 30K

OVA : MiniRae  
Driller : Steve Houston  
Drilling Method : Mud Rotary  
Diameter : 10"  
Calibration Gas/Conc : Isobutylene 100

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
100							ML-CL		Driller noted easier drilling @102'.
105	⊗			11:40			CH		(105-106' Split Spoon). High plasticity, CLAY, hard, brown (10YR 5/3), moist, high liquid limit, no dilatency, high toughness, high plasticity, high dry strength.
110									
115	⊗			12:12					(115-116' Split Spoon). SILTY CLAY, hard, dark yellowish brown (10 YR 4/4), moist, high toughness, high liquid limit, high plasticity, high dry strength.
120	⊗			17:40			ML		(120-121' Split Spoon). SANDY SILT with clay, approx 10-20% clay, approx 30-40% very fine to fine sand, approx 40-60% silt; stiff, dark yellowish brown (10 YR 4/4), moist, low plasticity, low toughness, moderate dilatency, low dry strength.
125	⊗		OC2-PMW13 W-0-04	Stop 18:05 Start 7/1/05 07:15			SP		(122 off E-log; from 124 off shaker; 125-126 Split Spoon). Poorly graded SAND, approx 90% fine-grained, 10% medium-grained, (0.5-1 mm dia.), dark grayish brown (2.5 Y 4/2), wet/saturated.
130	—		OC2-PMW13 W-0-04				SM		Increased SILT content with depth.
135							CL		(133-134' Split Spoon). Low plasticity CLAY, approx 3-5% fine sand, firm to very stiff (approx 1/4" penetration), light olive brown (2.5Y 5/3) with oxidation stains ranging from yellowish brown to dark reddish brown (5YR 3/4), moist to wet, low to moderate toughness, low liquid limit, moderate dilatency, low to moderate plasticity, possible organic (continental) artifacts, preferred horizontal fracture plane.
140							SW		
145									(135-139' off E-log): SAND.
150									Bottom of boring at 139'.

Well1: MW13A  
Well2: MW13B  
Elev.: 206.30



Boring in front of Fred Rippey at 12482 Putnam Street. Elevation noted is ground surface.  
A = shallow (dry); B = deeper.



# LOG OF BORING MW14

(Page 1 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 5, 2006  
Logged By : Jeremy Cook  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15K

OVA : MiniRae  
Driller :  
Drilling Method : Sonic  
Diameter : 6"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
0									Asphaltic concrete to ~6", aggregate base to 1 ft.	<p>Well: MW14 Elev.: 172.98</p> <p>Cover Surface Casing Concrete 2" Dia. Sch. 80 PVC 95% Cement/ 5% Bentonite Slurry</p>
5									SILTY CLAY, hard, dark brown (10YR 3/3), moist, no odor.	
10									SILTY CLAY, hard, dark yellowish brown (10YR 4/4), slightly moist, friable.	
15							CL		Same as above.	
20				11:50						
25										

DESCRIPTION OF BORING LOCATION: In parking lot, southeast corner of 12393 Washington Boulevard - Oncology Center (part of Presbyterian Intercommunity).

NOTES: Elevation is of ground surface.

# LOG OF BORING MW14

(Page 2 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: May 5, 2006	OVA	: MiniRae
Logged By	: Jeremy Cook	Driller	:
Checked By	: Ronald Halpern	Drilling Method	: Sonic
Drilling Company	: WDC	Diameter	: 6"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
25									(20-37") SILTY CLAY, medium stiff to stiff, dark yellowish brown (10YR 4/4), moist.	
30							CL			
35				12:45						
40							ML		(37-42.5'): Low plasticity SILT with CLAY, medium stiff, light olive brown (2.5Y 5/4), slightly moist, low toughness, moderate to rapid dilatency.	
45									(42-46'): Non plastic SILT, soft to medium stiff, olive brown (2.5Y 4/3), slightly moist.	
50							SP-SM		(46-55'): Poorly graded SAND with SILT, ~10%-20% silt, 80-90% very fine sand (<0.5 mm diameter), olive (5Y 5/3), slightly moist.	

Well: MW14  
Elev.: 172.98

2" Dia. Sch. 80  
PVC  
95% Cement/  
5% Bentonite  
Slurry

DESCRIPTION OF BORING LOCATION: In parking lot, southeast corner of 12393 Washington Boulevard - Oncology Center (part of Presbyterian Intercommunity).

NOTES: Elevation is of ground surface.



# LOG OF BORING MW14

(Page 3 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: May 5, 2006	OVA	: MiniRae
Logged By	: Jeremy Cook	Driller	:
Checked By	: Ronald Halpern	Drilling Method	: Sonic
Drilling Company	: WDC	Diameter	: 6"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: MW14 Elev.: 172.98
50				13:13			SP-SM		Wet from ~52'.	
55			OC2-PMW14 W-0-3	15:40			SP		(55-57'): Poorly graded SAND, ~5% Silt, 95% fine to medium sand (max. 2 mm diameter), olive brown, wet.	95% Cement/ 5% Bentonite Slurry 2" Dia. Sch. 80 PVC Medium Chips
							SW		(57-58'): Well graded SAND with Gravel, ~20-30% fine and coarse igneous and metamorphic subrounded gravel (max. 55 mm diameter), ~70% fine to coarse subangular sand (max 5 mm diameter), olive brown, wet to saturated.	#30 Sand
60				14:30					(58-60'): Poorly graded SAND, predominantly fine to medium (~80-90%), ~10-20% coarse sand; olive brown to dark olive brown (2.5Y 3/3 to 4/3), wet.	
									(60-65'): Poorly graded SAND with Gravel: ~15-20% subangular gravel, ~80-85% predominantly fine to medium grained sand (<2 mm) and some coarse (<5 mm), micaceous.	
65			OC2-PMW14 W-0-06	5/6/06			SP		(65-73'): Poorly graded SAND with Gravel ~15-20%: subangular to rounded, gravel, ~80-85% poorly graded medium to coarse sand (0.5 mm - 3 mm diameter) subangular quartz feldspar, micaceous	#2/12 Sand 2" Dia. PVC Sch 80 (0.020" Slotted Screen)
70			No Water Recovered						(73-75'): Poorly graded SAND with Gravel, ~10-15% subrounded-subangular gravel, 85-90% poorly graded fine to medium sand (0.01-1 mm diameter) well rounded to subrounded; predominantly quartz, plagioclase, and micas.	
75										

DESCRIPTION OF BORING LOCATION: In parking lot, southeast corner of 12393 Washington Boulevard - Oncology Center (part of Presbyterian Intercommunity).

NOTES: Elevation is of ground surface.



**ARCADIS**  
Infrastructure, environment, facilities

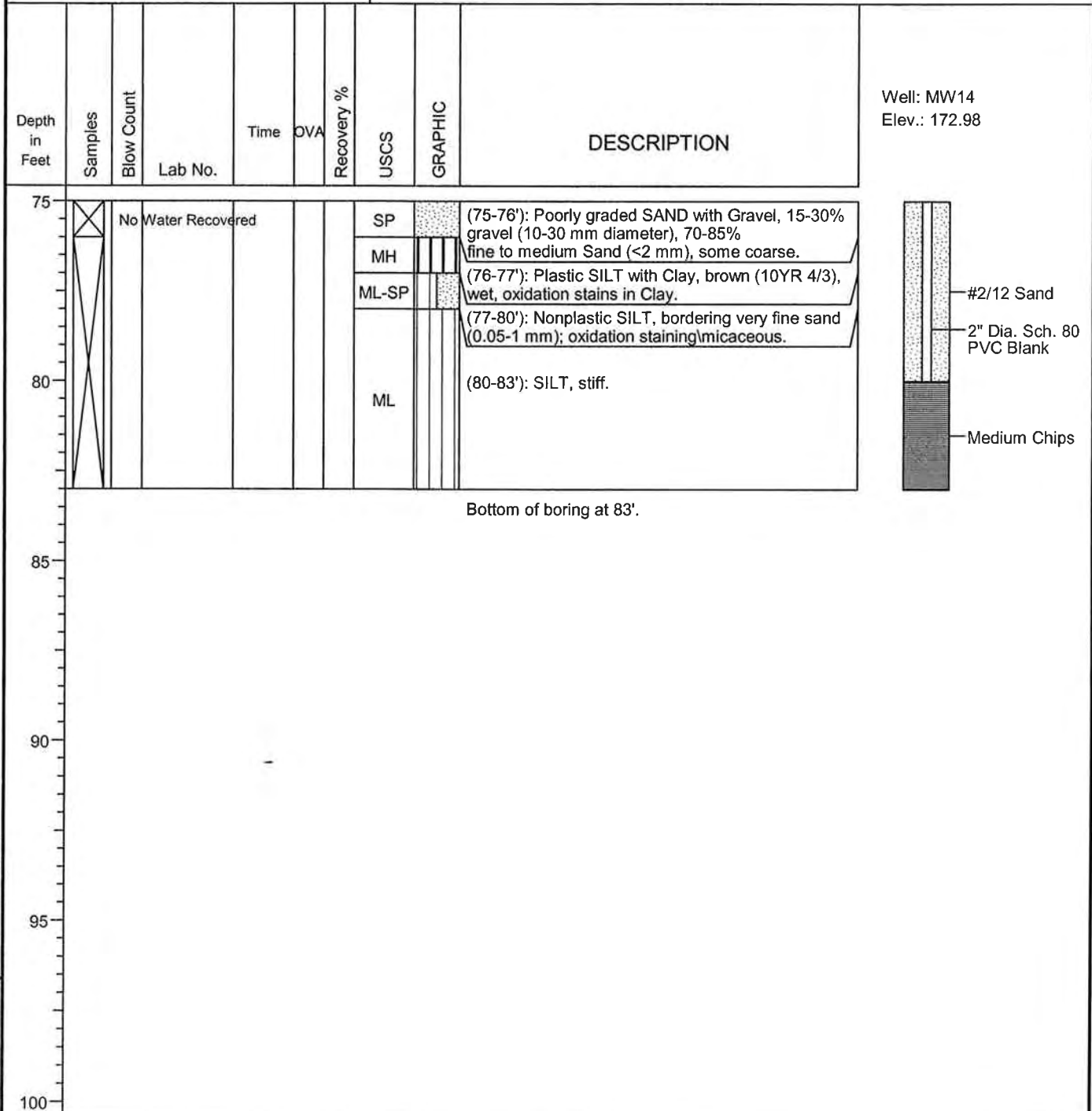
## LOG OF BORING MW14

(Page 4 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 5, 2006  
Logged By : Jeremy Cook  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15K

OVA : MiniRae  
Driller :  
Drilling Method : Sonic  
Diameter : 6"  
Calibration Gas/Conc : 100 ppm isobutylene



DESCRIPTION OF BORING LOCATION: In parking lot, southeast corner of 12393 Washington Boulevard - Oncology Center (part of Presbyterian Intercommunity).

NOTES: Elevation is of ground surface.



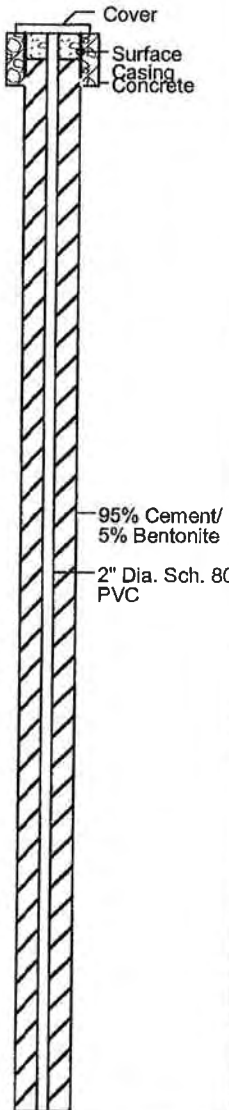
**ARCADIS**

Infrastructure, environment, facilities

**LOG OF BORING MW15**

(Page 1 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001Date Completed : August 11, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15KOVA : Thermo  
Driller :  
Drilling Method : Sonic  
Diameter : 6 1/4"  
Calibration Gas/Conc : 100 ppm Isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
0									Asphalt to 6" and underlying base to 1'.	
5							ML		(8-13' core): SILT, soft (>1" penetration), moist to wet, no odor.	
10									Change in consistency at 13', soft to medium stiff.	
15							CL		(13 to 18' core): SILTY CLAY, medium stiff (1/4-1/2" penetration), moist, dark yellowish brown (10YR 3/6), caliche from 14.5-18'.	
20				12:58					Same as above - stiff.	
25										

Boring located in northbound right lane of Chetle Avenue in front of 8550A Chetle Avenue. Elevation noted in ground surface.

**ARCADIS**

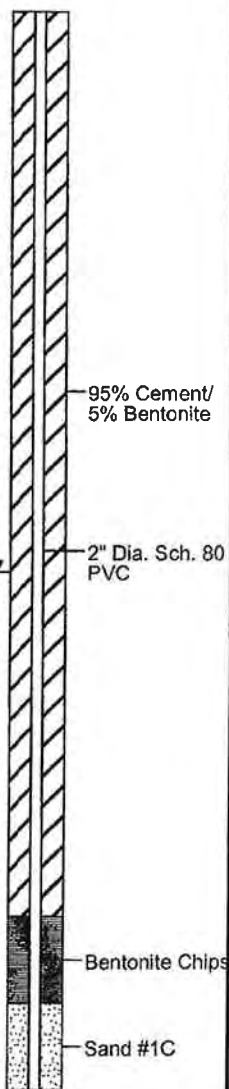
Infrastructure, environment, facilities

**LOG OF BORING MW15**

(Page 2 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001Date Completed : August 11, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15KOVA : Thermo  
Driller :  
Drilling Method : Sonic  
Diameter : 6 1/4"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: MW15 Elev.: 148.57
25							CL		Same as above - very stiff.	
30							ML		Same as above.	
							CL		Poorly graded SANDY SILT, with Clay, ~30% fine Sand, ~70% Silt w/Clay, hard, moist, dark yellowish brown (10YR 4/6).	
35							CL		SILTY CLAY, very stiff, moist, dark brown (10YR 3/3).	
				13:17			SP-SM		(36-38' core): Poorly graded SAND with SILT, 85% fine-grained, 15% Silt, moist, brown (10YR 4/3), micaceous, wet at 38 feet.	
40							SM-ML		(38-42' core): Poorly graded SILTY SAND/SANDY SILT, ~40-60% fine Sand, ~40-60% Silt, soft, saturated, olive brown (2.5Y 4/3).	
				13:35			SP-SM		(42-43'): Poorly graded SAND with SILT, ~10-20% Silt, 80-90% fine to medium soft, saturated, olive brown (2.5Y 4/3).	
45			OC2-MW15 W-0-03	15:24			SP-SM		(43-45' Simulprobe): Poorly graded SAND-fine, saturated, olive brown (2.5Y 4/3).	
							SP			
50			OC2-PMW12 W-0-05	17:10					(48-50'): Poorly graded SAND, ~66% fine, 34% medium to coarse sand (max 5 mm dia.), brown, saturated, subrounded.	



95% Cement/  
5% Bentonite

2" Dia. Sch. 80  
PVC

Bentonite Chips

Sand #1C

Boring located in northbound right lane of Chetle Avenue in front of 8550A Chetle Avenue. Elevation noted in ground surface.



# LOG OF BORING MW15

(Page 3 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: August 11, 2005	OVA	: Thermo
Logged By	: Ronald Halpern, PG	Driller	:
Checked By	: Ronald Halpern, PG	Drilling Method	: Sonic
Drilling Company	: WDC	Diameter	: 6 1/4"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
50									(50-53.5'): Poorly graded SAND, predominantly fine-grained as above, yellowish brown (10YR 5/6) to dark yellowish brown.	<p>Well: MW15 Elev.: 148.57</p>
55							SP		(53.5-54.4'): Poorly graded SAND, predominantly fine (50%), medium (25%), coarse (25%), saturated, yellowish brown to dark yellowish brown (10YR 5/6-4/6).	
							ML		(54.4-56.8'): SILT, medium stiff, moist to wet, light olive brown (2.5Y 5/4), (horizontally laminated).	
60			OC2-PMW12 W-0-07	Stop 8/10/05 8/11/05 7:30			SW		(56.8-61' Simulprobe): Well graded SAND, fine to coarse, occasional Gravel-subrounded, saturated, olive brown (2.5Y 4/4).	
65							SP		(61-70' core): Poorly graded SAND, predominantly fine to lower-end medium-grained (max 1 mm dia.), occasional coarse sand, fine and coarse gravel (max. 30 mm dia.), light olive brown (2.5Y 5/3), wet.	
70			Simulprobe OC2-PMW12 W-0-08	8:15 9:25					(70-72' Simulprobe): Same as above.	
							ML		(72-73' core): SILT, medium stiff, (~1/4" penetration), wet, olive brown (2.5Y 4/4), micaceous.	
							SP			
75							ML		(73-74' core): Poorly graded SAND, fine-grained, wet, olive brown (2.5Y 4/3), micaceous.	

Boring located in northbound right lane of Chetle Avenue in front of 8550A Chetle Avenue. Elevation noted in ground surface.

# LOG OF BORING MW15

(Page 4 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: August 11, 2005	OVA	: Thermo
Logged By	: Ronald Halpern, PG	Driller	:
Checked By	: Ronald Halpern, PG	Drilling Method	: Sonic
Drilling Company	: WDC	Diameter	: 6 1/4"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
75							ML		(74-75'): SILT, medium stiff, wet, olive brown (2.5Y 4/3).
							CL		(75-76'): Poorly graded SANDY SILT, ~30-40% fine sand, 60-70% Silt, medium stiff to soft, wet, olive brown (2.5Y 4/3).
							SP-SM		(76-79'): SILTY CLAY, stiff, moist, olive brown (2.5Y 4/4).
80							CL		(79-80' core): Poorly graded SAND with Silt, ~70-80% fine sand, ~20-30% silt, soft, wet, olive brown.
									(80-81' core): SILTY CLAY, hard, moist, olive brown.
Bottom of boring at 81'.									
85									
90									
95									
100									

Well: MW15  
Elev.: 148.57



Bentonite Chips

Boring located in northbound right lane of Chetle Avenue in front of 8550A Chetle Avenue. Elevation noted in ground surface.



# LOG OF BORING MW16

(Page 1 of 8)

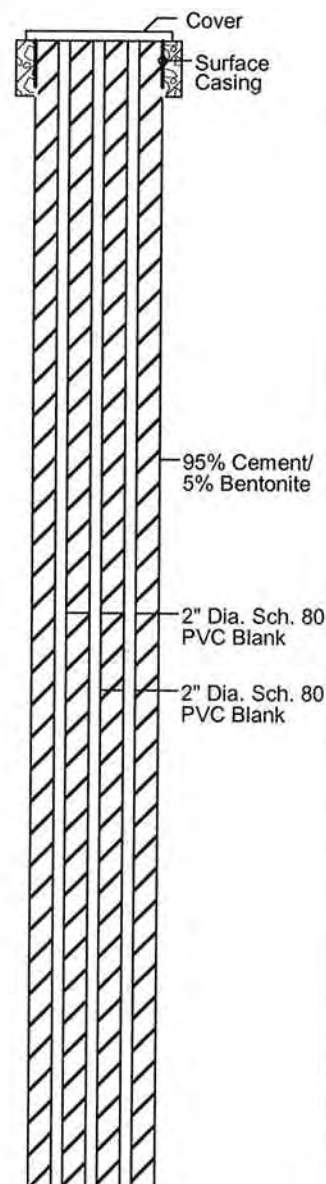
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 3, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star 30

OVA : MiniRae  
Driller : Mark Green  
Drilling Method : Mud Rotary  
Diameter : 8 3/4"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
0				5/27/05 12:00					Sod
5							ML		SILT with CLAY, (~5-10% clay), soft to medium stiff, dark yellowish brown (10YR 3/4), moist, no odor.
10									
15							SP		Off cyclone @14'; SAND, poorly graded: ~95-98% fine to medium-grained (max diam. 1 mm); dark yellowish brown (10YR 4/4), moist, no odor.
20									Set drive casing to 20'.
25									

Well1: MW16A  
Well2: MW16B  
Well3: MW16C  
Elev.: 153.19



In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

## NOTES:

Elevation = ground surface; A = Shallow, B = Intermediate, C = Deep Well.

# LOG OF BORING MW16

(Page 2 of 8)

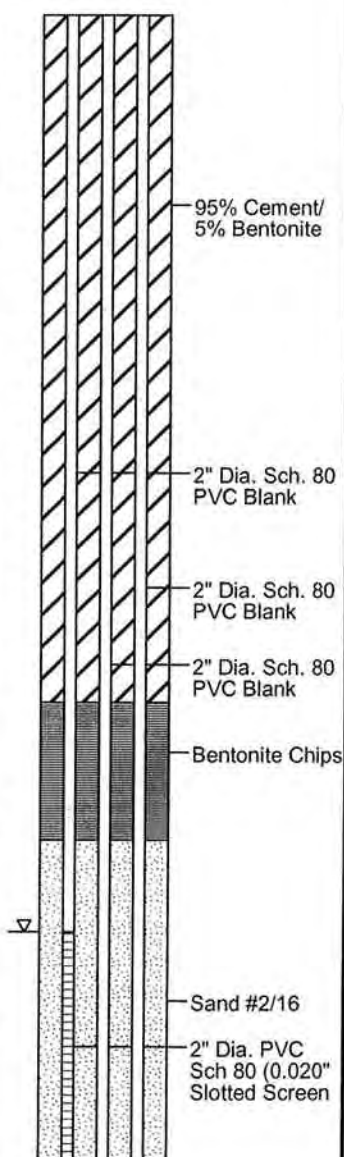
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 3, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star 30

OVA : MiniRae  
Driller : Mark Green  
Drilling Method : Mud Rotary  
Diameter : 8 3/4"  
Calibration Gas/Conc : 100 ppm isobutylene

Well1: MW16A  
Well2: MW16B  
Well3: MW16C  
Elev.: 153.19

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
25							SP		
30	X			14:29	1.3		ML-CL		Off split spoon @ 30-31.5. CLAYEY SILT to SILTY CLAY; soft, light olive brown (2.5Y 5/4), moist, no odor; moderate dilatency, moderate toughness, moderate to high plasticity.
35									
40	X			14:58			SP-SM		(Off Shaker): Poorly graded SAND with Silt; ~10-15% Silt, ~85-90% predominately fine-grained sand, some medium-grained (max 1 mm diam.), light olive brown (2.5Y 4/3 to 4/4).  Same as above, moist to wet, no odor. Stopped drilling 5/27/05 at 15:15
45				5/31/05 8:40			SP		(Off Shaker) 43-47': Poorly graded SAND, predominantly fine to medium grained (max 1 mm diam), occasional fine gravel (<1%; max diam 7 mm); brown.
50							SP-SM		(Off Shaker) 47-50': Poorly graded SAND with Silt-Silty Sand: ~5-15% silt, 85-95% predominantly very fine to fine sand; olive brown.



In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

## NOTES:

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# LOG OF BORING MW16

(Page 3 of 8)

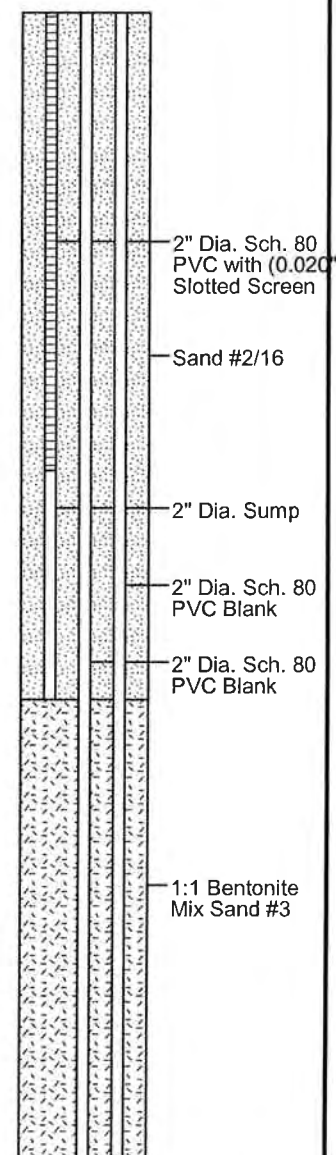
 Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

 Date Completed : June 3, 2005  
 Logged By : Ronald Halpern, PG  
 Checked By : Ronald Halpern, PG  
 Drilling Company : WDC  
 Drill Rig : GF Star 30

 OVA : MiniRae  
 Driller : Mark Green  
 Drilling Method : Mud Rotary  
 Diameter : 8 3/4"  
 Calibration Gas/Conc : 100 ppm isobutylene

 Well1: MW16A  
 Well2: MW16B  
 Well3: MW16C  
 Elev.: 153.19

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
50	X		No Water Recovery	9:04	1.4	100	SW		50.25-50.75 (off split spoon). Well graded SAND with Silt: ~10-15% silt, ~85-90% fine to coarse sand (max 5 mm dia.), occasional fine gravel; dark yellowish brown (10YR 4/4) to brown (10YR 4/3), saturated.
55	X		OC2-PMW16 W-0-04	12:56			GP		At 50.75-51.5 (off split spoon); SILT, medium stiff, yellowish brown (10YR 5/6) to dark olive brown (2.5Y 3/3), wet, no odor.
							SP		At 53'; Poorly graded GRAVEL, ~10% fine to medium sand, ~85% fine subrounded, igneous gravel, ~5% silt.
60	X		OC2-PMW16 W-0-06	14:30					56-57 (off split spoon). Poorly graded SAND, fine to medium-grained (max ~0.75 mm dia.); olive (5Y 4/4), saturated.
65									Non plastic SILT; medium stiff, olive brown (2.5Y 4/3), wet; occasional subrounded fine gravel.
70	X		OC2-PMW16 W-0-07 OC2-PMW16 W-1-08	15:50			ML		70.5-71.5' (Off split spoon): Non plastic SILT, soft to medium stiff, olive brown (2.5Y 4/3), moist, bands of iron oxide staining; micaceous.
75									



In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

## NOTES:

Elevation = ground surface; A = Shallow, B = Intermediate, C = Deep Well.

# LOG OF BORING MW16

(Page 4 of 8)

Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed : June 3, 2005  
 Logged By : Ronald Halpern, PG  
 Checked By : Ronald Halpern, PG  
 Drilling Company : WDC  
 Drill Rig : GF Star 30

OVA : MiniRae  
 Driller : Mark Green  
 Drilling Method : Mud Rotary  
 Diameter : 8 3/4"  
 Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
75										Well1: MW16A Well2: MW16B Well3: MW16C Elev.: 153.19
80	X		OC2-PMW16 W-0-09	17:35			ML		80.5-81.5' (Off split spoon): SILT with CLAY; medium stiff, light olive brown (2.5Y 5/4), wet; some iron oxide banding, micaceous.  Increased CLAY content.	
90	X		OC2-PMW16 W-0-10	6/1/05 8:40			SM		Stopped drilling 5/31/05 at 18:00. Resumed 6/1/05. Off split spoon. Poorly graded SILTY SAND, ~10-15% silt, ~75% predominantly fine to medium grained (max 1 mm dia.), occasional (~3-5%) coarse sand (~4 mm dia.) and ~5% fine gravel (max dia. 30 mm); olive brown (2.5Y 4/3), saturated.	1:1 Bentonite Mix Sand #3 2" Dia. Sch. 80 PVC Blank
95							SW		Off shaker. Same as above. ~5% coarse sand, 5% fine gravel.  Increasing grain size - grades into well graded SAND, fine to coarse (max 5 mm), occasional fine gravel (max 20 mm), dark grayish brown (10YR 4/2), saturated, subrounded grains. Change in soil type observed at 100.5.	2" Dia. Sch. 80 PVC Blank
100										

In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

## NOTES:

Elevation = ground surface; A = Shallow, B = Intermediate, C = Deep Well.



# LOG OF BORING MW16

(Page 5 of 8)

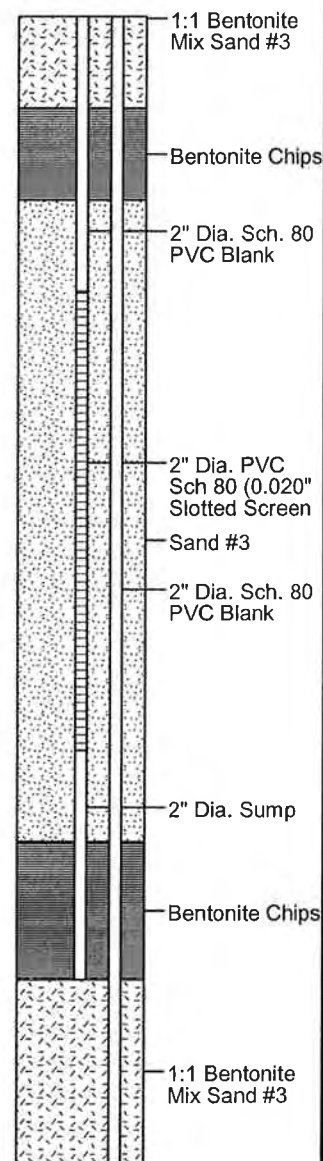
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 3, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star 30

OVA : MiniRae  
Driller : Mark Green  
Drilling Method : Mud Rotary  
Diameter : 8 3/4"  
Calibration Gas/Conc : 100 ppm isobutylene

Well1: MW16A  
Well2: MW16B  
Well3: MW16C  
Elev.: 153.19

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
100	X		No Water Recovery Mud	9:50	0.2		SW		(Off split spoon): SILTY CLAY; stiff, brown (10YR 4/3), moist, no odor; occasional yellowish red (5YR 4/4), staining, (possible iron oxide), high toughness, moderate plastic, no dilatency, positive ribbon test.
105					0.1		CL		
110	X		No Water Recovery Mud	12:00			SC		(Off shaker and mud pan), CLAYEY SAND: well graded, ~35-45% clay, ~45-55% fine to coarse sand (max 5 mm dia.), ~10% fine gravel (max 15 to 18 mm dia.); very dense; olive brown clay matrix; saturated; sand is subrounded, fine gravel platy and subangular of igneous origin.
115	X		No Water Recovery Mud	13:35	0.1		GP		111-112' (Off split spoon): Poorly graded GRAVEL with Sand: ~60% fine gravel (max 18 mm dia.) ~40% fine to coarse sand (max 5 mm dia.), of igneous origin, subrounded to subangular.
	X		No Water Recovery Mud				GW		Well graded GRAVEL with Sand: ~60% fine and coarse gravel (max 30 mm) ~40% fine to coarse sand.
120	X		OC2-PMW16 W-0-12	14:40	0.6		ML		114-114.25' (Off split spoon): Non plastic SILT; medium stiff, olive brown, wet.
125									CLAYEY SILT: ~60-90% silt, 10-40% clay, light olive brown (2.5Y 5/4), moist, no odor; brittle, low toughness, low to moderate plasticity, rapid to moderate dilatency, sticky.



In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

## NOTES:

Elevation = ground surface; A = Shallow, B = Intermediate, C = Deep Well.

# LOG OF BORING MW16

(Page 6 of 8)

Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed : June 3, 2005  
 Logged By : Ronald Halpern, PG  
 Checked By : Ronald Halpern, PG  
 Drilling Company : WDC  
 Drill Rig : GF Star 30

OVA : MiniRae  
 Driller : Mark Green  
 Drilling Method : Mud Rotary  
 Diameter : 8 3/4"  
 Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
125									(off shaker). Same as above.	Well1: MW16A Well2: MW16B Well3: MW16C Elev.: 153.19
130				16:20			ML		130-131.5' (Off split spoon): SILT; firm, olive brown (2.5Y 4/4), moist; micaceous, borderline very fine sand, rolls, low toughness, rapid dilatency, low plasticity. Set Simulprobe at 16:40 at 132-134'. Stopped drilling 6/1/05. Resume 6/2/05.	
				16:40			GP-GC		132-133.5 (Off split spoon). Poorly graded GRAVEL with Clay: ~80-90% fine subrounded to subangular gravel (max 20 mm dia.), occasional coarse gravel (max 25 mm dia.) in an olive brown (2.5Y 4/3) silty clay matrix; stiff moist, no odor; gravel of igneous origin.	
135			OC2-PMW16 W-0-14	6/2/05 7:00	0.2		ML		From 133.5 - SILT, stiff, olive brown (2.5Y 4/3), moist, no odor.	1:1 Bentonite: Sand #3 Mix
140				7:15			SP		140.5-141.5: Poorly graded SAND, fine-grained (max dia. ~0.1-0.2 mm); olive brown (2.5Y 6/3), moist, no odor.	2" Dia. Sch. 80 PVC Blank
			OC2-PMW16 W-0-15	8:30			CL		145' (off mud pan); CLAY with Sand, ~10-15% fine to coarse sand in silty clay matrix; olive brown (2.5Y 4/3).	Bentonite Chips
145							SP		149' Off mud pan: Poorly graded SAND, fine to medium (max 2 mm dia.), subrounded.	Sand #2/16
150										2" Dia. PVC Sch 80 (0.020") Stotted Screen

In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

## NOTES:

Elevation = ground surface; A = Shallow, B = Intermediate, C = Deep Well.



# LOG OF BORING MW16

(Page 7 of 8)

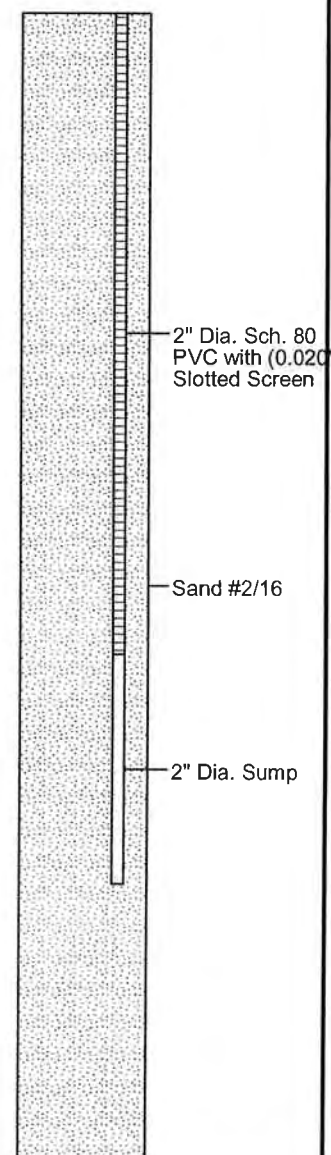
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 3, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star 30

OVA : MiniRae  
Driller : Mark Green  
Drilling Method : Mud Rotary  
Diameter : 8 3/4"  
Calibration Gas/Conc : 100 ppm isobutylene

Well1: MW16A  
Well2: MW16B  
Well3: MW16C  
Elev.: 153.19

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
150	X		No Water Recovery	11:36	0.1		GP		151-151.5 (off split spoon): Poorly graded GRAVEL: predominantly fine (max 19 mm dia.), occasional coarse (max 25 mm dia.), subrounded igneous source (plag, mafic, minerals).
155	X		No Water Recovery	14:00			SP		151.5 to 152 (off split spoon): Poorly graded SAND: predominantly fine grained (~10-15% medium <1 mm dia.), dense, olive brown (2.5Y 4/4), wet.  154-155' (off split spoon): Poorly graded SAND; fine to medium grained (max 1 mm dia.), olive brown (2.5Y 4/4) to light olive brown (2.5Y 5/4), wet.
160	X		OC2-PMW16 W-0-16	15:50	0.1		SP-SM		At 160-162 off split spoon. Same as above. ~10-20% silt, 80-90% fine to medium sand (max 2 mm dia.), dark grayish brown (2.5Y 4/2), wet.
165									
170	X		OC2-PMW16 W-0-19	16:45 6/3/05 7:15			CL		Driller indicates change in soil type at 170' based on drilling conditions/clay on drill bit. Change also observed on shaker. Stopped drilling 6/2/05 at 16:45 at 170'. Simulprobe set overnight  170-172 (off split spoon); SILTY CLAY, very stiff, dark yellowish brown (10YR 4/4 to 4/6), moist, light bluish gray (Gley 2 8/1) artifacts, (marine?); some blackish artifacts-possibly decayed organic; moderate to high toughness, no dilatency, moderate to high plasticity, low liquid limit, high dry strength.
175									



In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

## NOTES:


Elevation = ground surface; A = Shallow, B = Intermediate, C = Deep Well.

# LOG OF BORING MW16

(Page 8 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: June 3, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Mark Green
Checked By	: Ronald Halpern, PG	Drilling Method	: Mud Rotary
Drilling Company	: WDC	Diameter	: 8 3/4"
Drill Rig	: GF Star 30	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
175									
180	X			8:17			CL		Same as above, very stiff to hard, strong brown (7.5YR 5/6-4/6), slightly moist. Bottom of boring at 182'.
185									
190									
195									
200									

Well1: MW16A  
Well2: MW16B  
Well3: MW16C  
Elev.: 153.19



Sand #2/16

In the greenbelt on the east side of Dice Road, approximately 85 feet north of the centerline intersection with Altamar Place.

## NOTES:

Elevation = ground surface; A = Shallow, B = Intermediate, C = Deep Well.



# LOG OF BORING MW17

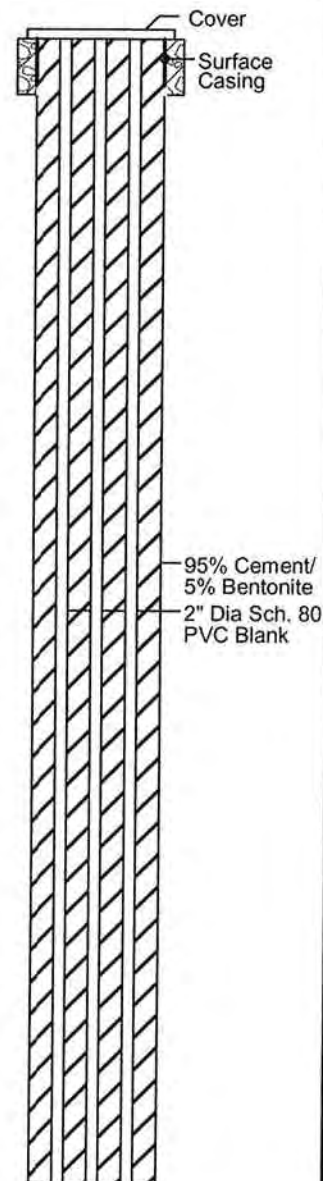
(Page 1 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 28, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud Rotary

OVA : MiniRae  
Driller : Steve, Joe, Daniel  
Drilling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm Isobutylene

Well1: MW17A  
Well2: MW17B  
Well3: MW17C  
Elev.: 159.42



Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
0									Unpaved soil
5							CL		(Off cyclone): SILTY CLAY, stiff, brown (10YR 4/3), slightly moist, no odor.
10									(Off cyclone): SILTY CLAY, stiff, dark yellowish brown (10YR 4/6), dry to slightly moist, ~3-5% fine sand.
15							SP-ML		(Off cyclone): Poorly graded SAND/SILT, very fine-grained sand, light yellowish brown (2.5Y 6/4), dry to slightly moist.
20							SP		(Off mud return): Poorly graded SAND, predominantly fine to medium grained, ~5-10% coarse (3-4 mm dia.)
25									

Boring location on southwest sidewalk of Pike Street opposite 12005 Pike Street (behind McMaster Carr).  
Elevation noted is ground surface.

A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW17

(Page 2 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 28, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud Rotary

OVA : MiniRae  
Driller : Steve, Joe, Daniel  
Drilling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
25							SP			Well1: MW17A Well2: MW17B Well3: MW17C Elev.: 159.42
30	X			10:43			CL		(30-31' Split Spoon): CLAY, hard, strong brown (7.5YR 4/6), moist, mottled with light gray and reddish brown, ~3-5% fine sand.	
35									(36' Off shaker): Poorly graded SAND, ~80-90% fine to medium Sand, ~10-20% medium to coarse Sand.	
40	X			12:00	0.7	100%	SP		At 11:45 set Simulprobe 4-41.5'. No water at 12:00 (40-41.5' off Simulprobe): Poorly graded SAND, predominantly (90-95%) fine to medium sand (up to 1 mm dia.), 5-10% low-end coarse sand (2-2.5 mm di.), yellowish brown (10 YR 5/4) to dark yellowish brown (10YR 4/4), wet.	95% Cement/ 5% Bentonite 2" Dia Sch. 80 PVC Blank
45									(Based on E-logs)	
50							ML			

Boring location on southwest sidewalk of Pike Street opposite 12005 Pike Street (behind McMaster Carr).  
Elevation noted is ground surface.

A = Shallow; B = Intermediate; C = Deep



# LOG OF BORING MW17

(Page 3 of 8)

 Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

 Date Completed : June 28, 2005  
 Logged By : Ronald Halpern, PG  
 Checked By : Ronald Halpern, PG  
 Drilling Company : WDC  
 Drill Rig : GF Star30 Mud Rotary

 OVA : MiniRae  
 Driller : Steve, Joe, Daniel  
 Drilling Method : Simulprobe/Split Spoon  
 Diameter : 8 3/4  
 Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
50	X		OC2PMW17 W-0-04	13:50	1.1	100%			(50-51.5' off Simulprobe): SILT with CLAY, soft to firm (~1/4" penetration), yellowish-brown (10YR 5/6), wet (not saturated), rapid dilatency, low toughness, low plasticity, occasional black (organic?) artifacts, occasional evidence of horizontal layering, sticky.	Well1: MW17A Well2: MW17B Well3: MW17C Elev.: 159.42
55							ML			
60	X		No Water Recovery		0.4	100%			(60-60.5' from Simulprobe): Same as above.	
65	X		Dry Canister	6/22/05		100%	SP		(60.5-61.5' from Simulprobe): Poorly graded SAND, fine-grained (max 1/2 mm dia.), light olive brown (2.5Y 5/3), moist, no odor.  (65-66.5' from Simulprobe): Poorly graded SAND, ~75-80% fine to medium grained sand (up to 2 mm dia.), ~20-25% coarse (max 5 mm dia.), occasional fine gravel, light olive brown (2.5Y 5/3), wet.	
70										95% Cement/ 5% Bentonite  Bentonite Chips  2" Dia Sch. 80 PVC Blank  2" Dia Sch. 80 PVC (0.020" Slotted Screen  Sand #2/16  2" Dia Sch. 80 PVC w/Threaded End Cap
75							ML		(Based on E-logs)	

 Boring location on southwest sidewalk of Pike Street opposite 12005 Pike Street (behind McMaster Carr).  
 Elevation noted is ground surface.

A = Shallow; B = Intermediate; C = Deep



Infrastructure, environment, facilities

# LOG OF BORING MW17

(Page 4 of 8)

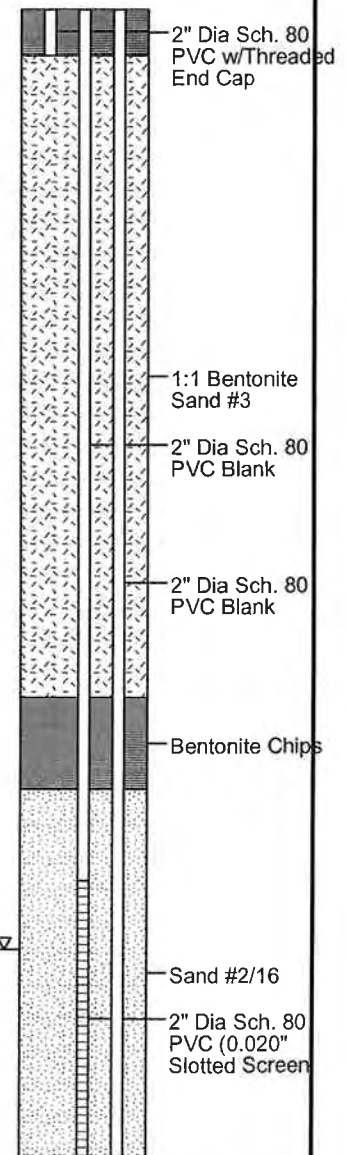
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 28, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud Rotary

OVA : MiniRae  
Driller : Steve, Joe, Daniel  
Drilling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
75	X		No Water Recovery	8:30 9:30			ML		(75-77' off Simulprobe): SILT, firm (~1/4" penetration), brown (7.5YR 5/4), mottled with light gray and reddish brown, wet (but not saturated), low plasticity, low toughness, slow dilatency, low liquid limit.  (77-80' off mud return): SANDY SILT, ~15% fine to medium Sand, saturated (max 2 mm dia.) in brown clayey Silt matrix.
80									(Based on E-logs)
85	X		No Water Recovery	10:30 11:30			CL		(85-87' off Simulprobe): SILTY CLAY, hard, reddish brown (5YR 4/4), slightly moist, ~10-20% fine-grained size (15-20 mm dia.) modules of clay, sub-spherical and subrounded.
90									
95	X		OC2PMW17 W-0-06 OC2PMW17 W-1-07	12:30 14:00			SP		(95-97' Split Spoon): Poorly graded SAND, ~3-5% reddish brown clay, ~95-97% fine to medium Sand (<=1 mm dia.), strong brown (7.5YR 4/4), to olive brown (2.5Y 4/3), saturated.
100									

Well1: MW17A  
Well2: MW17B  
Well3: MW17C  
Elev.: 159.42



Boring location on southwest sidewalk of Pike Street opposite 12005 Pike Street (behind McMaster Carr).  
Elevation noted is ground surface.

A = Shallow; B = Intermediate; C = Deep



# LOG OF BORING MW17

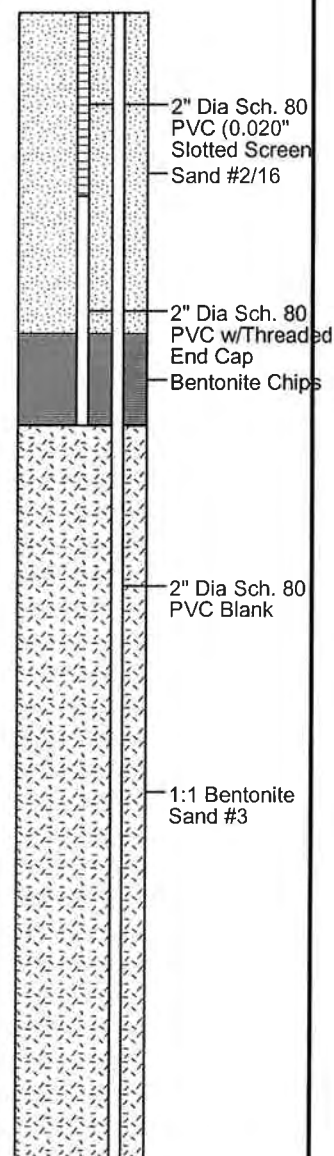
(Page 5 of 8)

 Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed	: June 28, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Steve, Joe, Daniel
Checked By	: Ronald Halpern, PG	Drilling Method	: Simulprobe/Split Spoon
Drilling Company	: WDC	Diameter	: 8 3/4
Drill Rig	: GF Star30 Mud Rotary	Calibration Gas/Conc	: 100 ppm isobutylene

 Well1: MW17A  
 Well2: MW17B  
 Well3: MW17C  
 Elev.: 159.42

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
100							SP		(102' off shaker): Poorly graded SAND: ~70-80% fine to medium grained, ~20-30% medium to coarse (max 5 mm).
105	X		No Water Recovery	14:40 15:50			ML		(105-107' off Simulprobe): CLAYEY SILT, firm (<1/4" penetration), light olive brown (2.5Y 4/3), moist, rapid dilatency, moderate toughness, low plasticity, positive ribbon test, trace very fine sand.
110							ML		Off mud return at 110' - same as above.
115	X		OC2PMW17 W-0-08	6/22/05 6/23/05 7:50			SW-SC		(115-117' off Simulprobe): SILT, medium stiff (1/4-3/8" penetration), light olive brown (2.5Y 5/3) to olive brown (2.5Y 4/3), wet (but not saturated), low plasticity. At 117' driller indicates change soil type.
120							SW-SC		(117' off shaker): Well graded SAND with Silt and Gravel, ~5-10% Silt, ~5% Clay, ~60-70% fine to coarse Sand (max dia. 5 mm), and ~30% fine gravel, yellowish brown, sand and gravel subangular to subrounded and sub-spherical.
125							SP		


 Boring location on southwest sidewalk of Pike Street opposite 12005 Pike Street (behind McMaster Carr).  
 Elevation noted is ground surface.

A = Shallow; B = Intermediate; C = Deep







# LOG OF BORING MW17

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Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: June 28, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Steve, Joe, Daniel
Checked By	: Ronald Halpern, PG	Drilling Method	: Simulprobe/Split Spoon
Drilling Company	: WDC	Diameter	: 8 3/4
Drill Rig	: GF Star30 Mud Rotary	Calibration Gas/Conc	: 100 ppm isobutylene

Well1: MW17A  
Well2: MW17B  
Well3: MW17C  
Elev.: 159.42

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
125			No Water Recovery	9:00			SP		(125-127' off Simulprobe): Poorly graded SAND with SILT, ~3-5% Silt, 95-97% very fine Sand, olive (5Y 4/4), wet, does not roll, rapid dilatancy, no dry strength.
130							CL		(From 130' based on E-log)  (~132' off mud return): SILTY CLAY, olive brown (2.5Y 4/3), moderate toughness, moderate plasticity.
135			No Water Recovery			50%	ML		(135-137' off Split Spoon): SILT with CLAY, ~5% Clay, hard, olive (5Y 5/3), moist, low to medium toughness, moderate dilatancy, moderate plasticity.
140									Off mud return - same as above.
145			OC2PMW17 W-0-09	14:33					Change in color - off mud return.  (145-147' off Simulprobe): SILT with CLAY, firm (~1/4" penetration), dark greenish gray (Gley 1 4/1), wet, low to moderate toughness, low plasticity, moderate dilatancy.
150									


1:1 Bentonite  
Sand #3  
2" Dia Sch. 80  
PVC Blank

Boring location on southwest sidewalk of Pike Street opposite 12005 Pike Street (behind McMaster Carr).  
Elevation noted is ground surface.

A = Shallow; B = Intermediate; C = Deep



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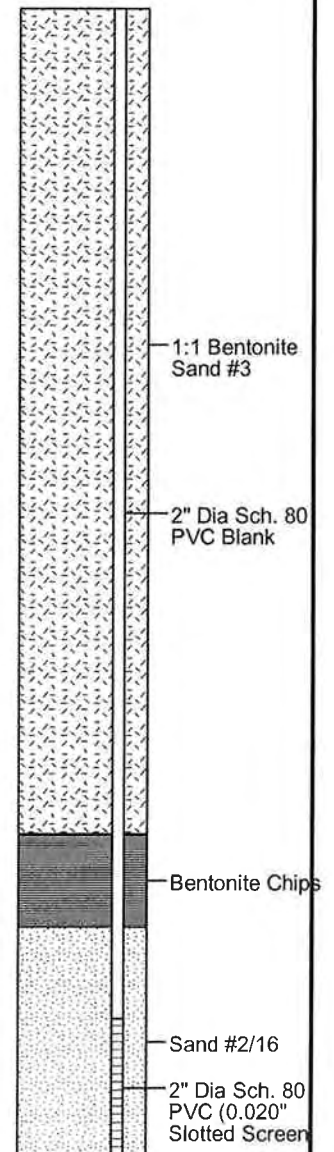
Infrastructure, environment, facilities

**LOG OF BORING MW17**

(Page 7 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001Date Completed : June 28, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud RotaryOVA : MiniRae  
Driller : Steve, Joe, Daniel  
Drilling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm isobutyleneWell1: MW17A  
Well2: MW17B  
Well3: MW17C  
Elev.: 159.42

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
150							ML		
155	X						CL		(153-157' Split Spoon): SILTY CLAY, hard (fingernail penetration), dark greenish gray (Gley 1 3/1), with caliche (effervescent/HCl), dry to slightly moist.
160									
165	X					40%	ML		Change in drilling according to driller.  (165-166' Split Spoon): Sandy non-plastic SILT, hard, pale-olive (5Y 6/3) with yellowish brown (10YR 5/8) oxidation stains, moist.
170	X			6/24/05 8:52			SP		(170-171' Split Spoon): Poorly graded SAND-fine grained (0.1-0.2 mm dia.), light olive gray (5Y 6/2), wet, subangular to subrounded sand grains, ~70-80% quartz, ~15% mafic, 5-15% other.
175									

Boring location on southwest sidewalk of Pike Street opposite 12005 Pike Street (behind McMaster Carr).  
Elevation noted is ground surface.

A = Shallow; B = Intermediate; C = Deep

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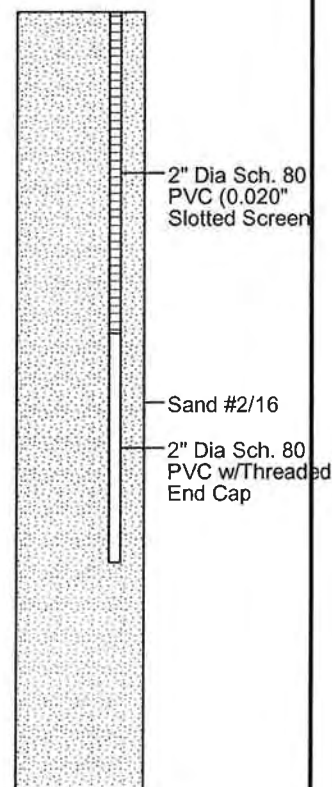
# LOG OF BORING MW17

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 Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed	: June 28, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Steve, Joe, Daniel
Checked By	: Ronald Halpern, PG	Drilling Method	: Simulprobe/Split Spoon
Drilling Company	: WDC	Diameter	: 8 3/4
Drill Rig	: GF Star30 Mud Rotary	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
175							SP		Change in color at ~175 ft to brownish yellow (10YR 6/6), with reddish brown oxidation planes.
180	X		OC2PMW17 W-0-13	13:55			SP-SM		Driller indicates "GRAVEL" at 180'. (180' off mud return): Poorly graded SAND, ~80-90% fine to medium grained (max 2 mm dia.), ~5% coarse Sand, ~5% fine Gravel (max 14 mm dia.). (180-182' off Simulprobe): Poorly graded SAND with SILT, ~5-10% Silt, 90-95% fine to medium Sand (max 1 mm dia.), light olive brown (2.5Y 5/6), with yellowish brown (10YR 5/6), oxidation planes, wet, no odor.
185									
190	X		OC2PMW17 W-0-15	6/27/05 10:55			SP		(190' off mud return): Poorly graded/well graded SAND, ~90% fine to medium-grained Sand (max 2 mm dia.) ~5-10% coarse Sand (max 5 mm dia.), <3% fine Gravel.
195							ML-CL		(190-191.5' off Simulprobe): Poorly graded SAND with SILT, ~10% Silt, ~3-5% coarse Sand, 85-90% fine to medium Sand (max 2 mm dia.), oxidation planes, wet, no odor.
195									(191.5-192' off Simulprobe): CLAYEY SILT/SILTY CLAY, moist, (2.5Y 5/6) with yellowish brown oxidation planes (10YR 5/6), no odor, moderate toughness, moderate to high plasticity, low dilatancy.
200									

 Well1: MW17A  
 Well2: MW17B  
 Well3: MW17C  
 Elev.: 159.42


Bottom of boring at 192 ft.

 Boring location on southwest sidewalk of Pike Street opposite 12005 Pike Street (behind McMaster Carr).  
 Elevation noted is ground surface.

A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW18

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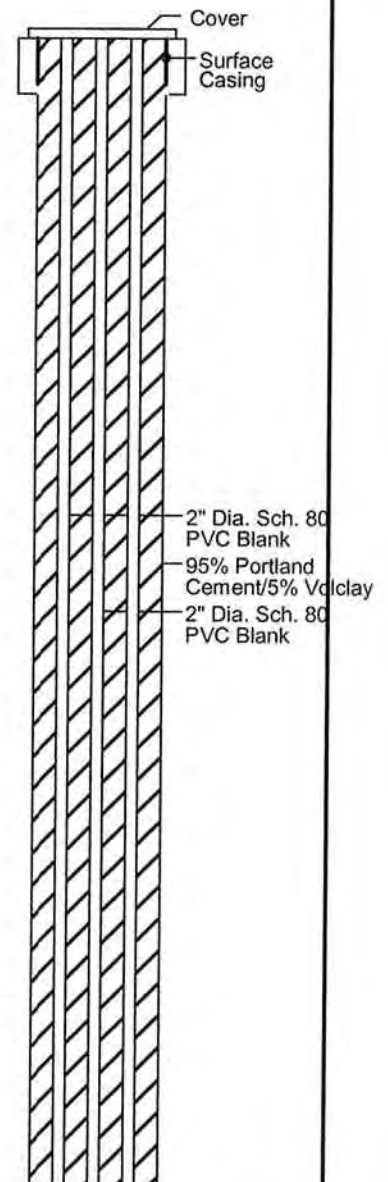
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 17, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud Rotary

OVA : MiniRae  
Driller : Steve, Joe, Daniel  
Sampling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
0				6/9/05 16:20					Grass surface to 6"
5							CL		(Off cyclone): SILTY CLAY, very dark grayish brown (2.5Y 3/2), moist to wet, low to moderate toughness, low plasticity, no dilatency.  (4-8' off cyclone): SILTY CLAY, ~10-15% fine to coarse sand (max 4 mm dia.), thick dark yellowish brown (10YR 4/4), silty clay matrix, slightly moist, rolls, moderate to high toughness, moderate plasticity.
10									(8-17' off cyclone): Well graded SAND with CLAY, ~10-15% strong brown (7.5YR 4/6) clay ~85-90%, fine to coarse sand (max 4 mm dia.), strong brown, slightly moist, no odor.
15				16:35 6/10/05 9:15			SW-SC		(17-20' off mud shaker): Same as above.
20									
25									

Well1: MW18A  
Well2: MW18B  
Well3: MW18C  
Elev.: 144.74



In greenbelt on south side of Ann Street, ~140 ft. East of Santa Fe Springs Road, on north side of Liz Clairborne facility at 9400 Santa Fe Springs Road.

Elevation = finished surface; A = Shallow; B = Intermediate; C = Deep



# LOG OF BORING MW18

(Page 2 of 8)

Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed	: June 17, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Steve, Joe, Daniel
Checked By	: Ronald Halpern, PG	Sampling Method	: Simulprobe/Split Spoon
Drilling Company	: WDC	Diameter	: 8 3/4
Drill Rig	: GF Star30 Mud Rotary	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
25										Well1: MW18A Well2: MW18B Well3: MW18C Elev.: 144.74
25				10:17			SP-SM		(Off mud shaker): Poorly graded SAND with silt, ~10-15% silt, ~85-90% fine to medium grained sand, olive brown (2.5Y 4/2).	
30				10:40					Poorly graded SAND with SILT, ~10-15% silt, ~85-90% predominantly fine-grained sand with 5% medium-grained sand, olive brown (2.5Y 4/3), wet, single cobble (80 mm dia.), granitic, sub-spherical, subrounded.	
35									(Based on E-Logs)	
40				10:55 12:40			CL		(40-42' Split Spoon): SILTY CLAY, stiff, <firm (<1/4" penetration), olive gray (5Y 5/2), moist, light gray (5Y 7/1), high toughness, high plasticity, positive ribbon test, blocky fracture, silty features, olive gray matrix with no definite shape.	2" Dia. Sch. 80 PVC Blank 95% Portland Cement/5% Vol clay 2" Dia. Sch. 80 PVC Blank
45										
50									At 50' from mudpan - same as above.	

In greenbelt on south side of Ann Street, ~140 ft. East of Santa Fe Springs Road, on north side of Liz Clairborne facility at 9400 Santa Fe Springs Road.

Elevation = finished surface; A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW18

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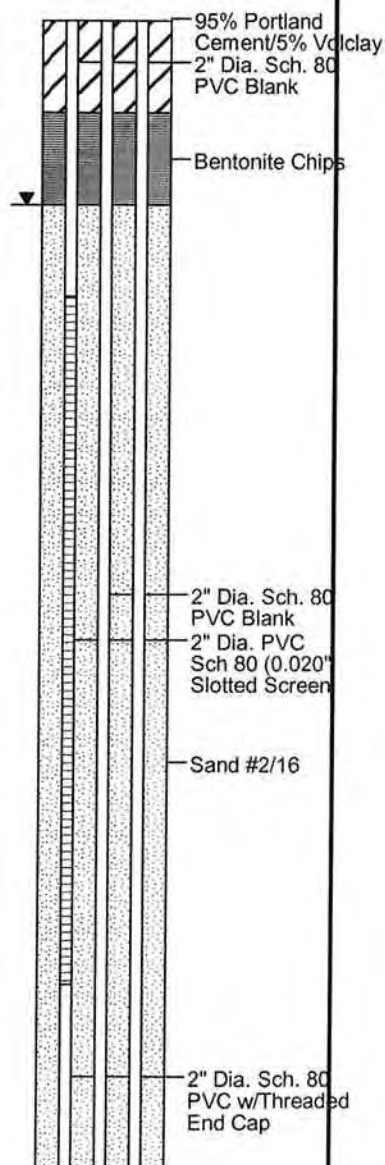
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 17, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud Rotary

OVA : MiniRae  
Driller : Steve, Joe, Daniel  
Sampling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm isobutylene

Well1: MW18A  
Well2: MW18B  
Well3: MW18C  
Elev.: 144.74

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
50				13:35			ML		(50-52' Split Spoon): SILT, firm, light olive brown (2.5Y 5/4), moist, no odor.
							SP-SM		(53' off shaker): Poorly graded fine SAND with SILT, predominantly fine-grained. Wet from 54 feet.
55			OC2-PMW18 W-0-03	14:00			SP		(55-57' off Split Spoon): Poorly graded SAND, ~3-5% clay, 95-98% predominantly fine sand (max 0.5 mm dia.), <5% medium grained (max dia. 1 mm), olive brown (2.5Y 4/3), saturated.
			OC2-PMW18 W-1-04	6/13/05 7:30					(~58' off mud pan): Increase in grain size to fine and medium Sand (max 2 mm dia.).
60				8:00			SW-SM		(62'): Increasing grain size - grades into well graded SAND with SILT, ~3-5% silt, 85-95% fine to coarse sand, ~5-10% fine sub spherical to sub tabular gravel.
65			OC2-PMW18 W-0-06	8:54			GW		(65-66.5' Split Spoon): Well graded GRAVEL, ~5-10% coarse sand, 90-95% fine and coarse gravel (max 30 mm dia.) of igneous and metamorphic origin (quartz, igneiss), gravel, subrounded, sub spherical to elongated.
			OC2-PMW18 W-0-07	10:10					(66.5-67' Split Spoon): Poorly graded SAND, fine-grained (max 0.5 mm dia.), light olive brown (2.5Y 5/3), wet.
70							SP		(72'): Increasing grain size up to 2 mm dia., pale olive (5Y 6/3) with dark mafic minerals.
75									



In greenbelt on south side of Ann Street, ~140 ft. East of Santa Fe Springs Road, on north side of Liz Clairborne facility at 9400 Santa Fe Springs Road.

Elevation = finished surface; A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW18

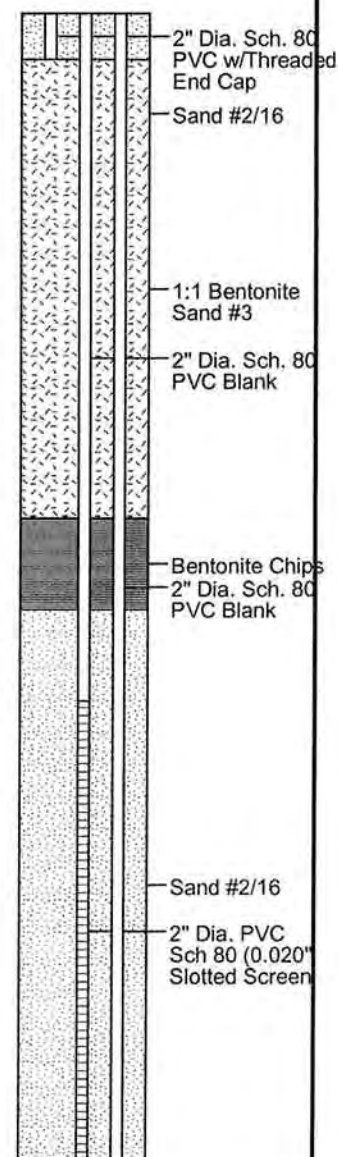
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 Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed	: June 17, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Steve, Joe, Daniel
Checked By	: Ronald Halpern, PG	Sampling Method	: Simulprobe/Split Spoon
Drilling Company	: WDC	Diameter	: 8 3/4
Drill Rig	: GF Star30 Mud Rotary	Calibration Gas/Conc	: 100 ppm isobutylene

 Well1: MW18A  
 Well2: MW18B  
 Well3: MW18C  
 Elev.: 144.74

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
75	X		OC2-PMW18 W-0-09	11:12 12:25	0.6				(75-77' from Simulprobe): Well graded SAND with Clay and Gravel: ~10-15% silt, ~40% predominantly fine-gravel (max 19 mm dia.), some coarse (up to 35 mm dia.), ~45-50% fine to coarse sand (max 4 mm dia.), light olive brown (2.5Y 5/4), wet; gravel is of igneous and metamorphic origin, subangular to subrounded, platy to sub spherical.
80							SW-SM		Encountered more rocks at ~82' according to driller. (83-85' off shaker): Fine to coarse SAND with SILT, ~5-10% Silt.
85	X		OC2-PMW18 W-0-10	13:40 16:04					(86-87' Split Spoon): Well graded Silty SAND with Gravel: ~10-20% light olive brown (2.5Y 5/4) silt, 30-40% fine and coarse gravel (max 20 mm dia.) subangular and sub spherical, ~40-60% fine to coarse sand, gravel is reworked sediment consisting of gravel-size rocks of igneous metamorphic origin encased in semi-indurated sand and silt layer.
90							SP		(~90' off shaker): Poorly graded SAND, fine to medium, olive (5Y 4/3), saturated.
95	X		OC2-PMW18 W-0-12	6/14/05 7:40			GP-GM		(Possible Slough - 95-96.5'): Poorly graded GRAVEL with Sand and Silt, ~5-10% silt, ~20-25% medium to coarse sand, ~70% predominantly fine gravels (up to ~14 mm), ~5% coarse gravel (max 25 mm dia.) subrounded.
100							SP		(97' Split Spoon and Shaker): Poorly graded SAND: fine to medium-grained (max 2 mm dia.), olive (5Y 7/4), saturated. Increasing grain size w/depth (off shaker).



In greenbelt on south side of Ann Street, ~140 ft. East of Santa Fe Springs Road, on north side of Liz Clairborne facility at 9400 Santa Fe Springs Road.

Elevation = finished surface; A = Shallow; B = Intermediate; C = Deep



# LOG OF BORING MW18

(Page 5 of 8)

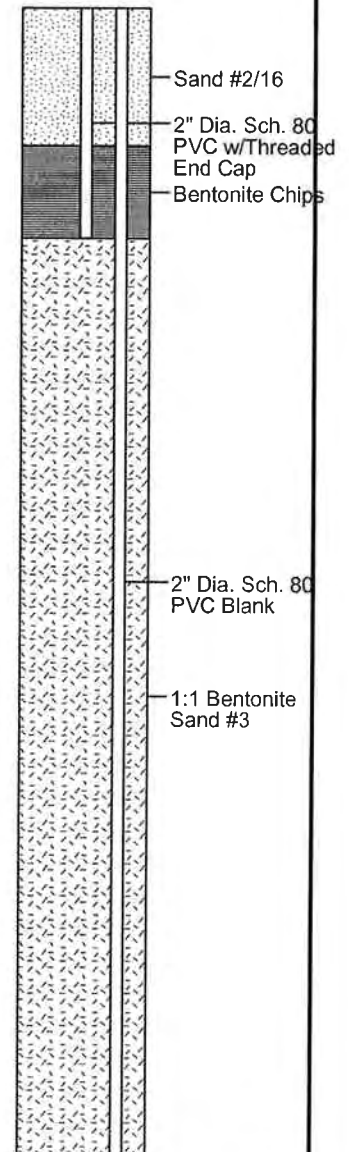
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 17, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud Rotary

OVA : MiniRae  
Driller : Steve, Joe, Daniel  
Sampling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
100							SW-SC		(100' off shaker): Well graded SAND with Clay, ~5-10% fines, ~60% fine to medium Sand, ~40-45% coarse Sand (max 5 mm dia.) subrounded, olive (5Y 7/4), saturated.
105			OC2-PMW18 S-0-13	9:45 11:00		0%	ML		(107-109' off Split Spoon): SILT, firm, (<=1/4" penetration), olive (5Y 4/3) with strong brown (7.5YR 4/6), vertical banding, moist to very moist, but no saturated, blocky fragmentation.
110			No Water Recovery						
115			OC2-PMW18 W-0-14	13:05	0.1		SP-SM		(115-119' off Simulprobe): Poorly graded SAND with Silt, predominantly fine Sand, ~5-10% Silt, moist to very moist, olive brown (2.5Y 4/3 - 2.5Y 4/4).
120							ML		
125									

Well1: MW18A  
Well2: MW18B  
Well3: MW18C  
Elev.: 144.74



09-08-2006 COMMONM/Tech5/Omega Chemical/MW-18.BOR

In greenbelt on south side of Ann Street, ~140 ft. East of Santa Fe Springs Road, on north side of Liz Clairborne facility at 9400 Santa Fe Springs Road.

Elevation = finished surface; A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW18

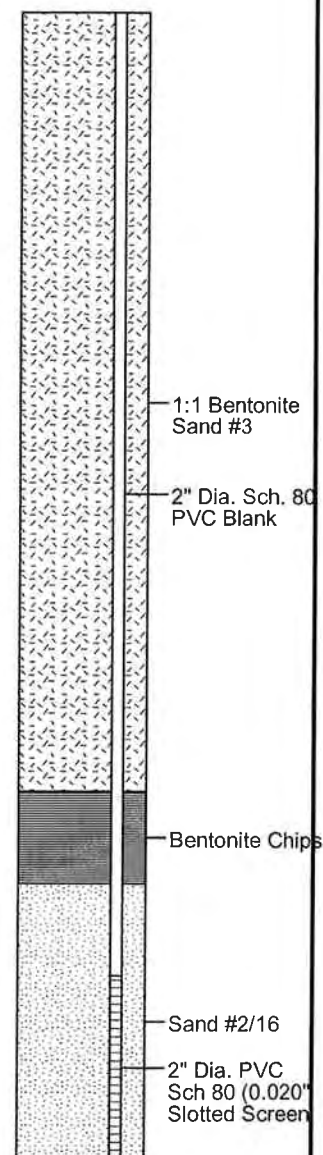
(Page 6 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: June 17, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Steve, Joe, Daniel
Checked By	: Ronald Halpern, PG	Sampling Method	: Simulprobe/Split Spoon
Drilling Company	: WDC	Diameter	: 8 3/4
Drill Rig	: GF Star30 Mud Rotary	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
125			OC2-PMW18 W-0-15	15:30	0.1				(125-128' off Simulprobe): Clayey SILT, ~10-20% clay, ~80-90% silt, moist to very moist, olive brown (2.5Y 4/4), low toughness, medium plasticity, moderate dilatancy, low dry strength.
			OC2-PMW18 S-0-16	15:40					
130							ML		
135			OC2-PMW18 S-0-18	6/15/05 7:55	0.4	0%			(135-137' Split Spoon): SILT, firm (<1/4" penetration), olive (5Y 4/4), moist, some light gray artifacts.
			No Water Recovery						
140							CL		(~141 off mud return): Silty CLAY, yellowish brown (10YR 5/4).
145			OC2-PMW18 W-0-21	9:35 11:00			ML		(145-147' off Simulprobe): SILT, firm, olive (5Y 4/4), moist, light gray (possible marine) artifacts-looks like wormhole - secondary fill with secondary porosity.
									Increasing sand content based on E-logs.
150									

Well1: MW18A  
Well2: MW18B  
Well3: MW18C  
Elev.: 144.74



In greenbelt on south side of Ann Street, ~140 ft. East of Santa Fe Springs Road, on north side of Liz Clairborne facility at 9400 Santa Fe Springs Road.

Elevation = finished surface; A = Shallow; B = Intermediate; C = Deep



**ARCADIS**  
Infrastructure, environment, facilities

## LOG OF BORING MW18

(Page 7 of 8)

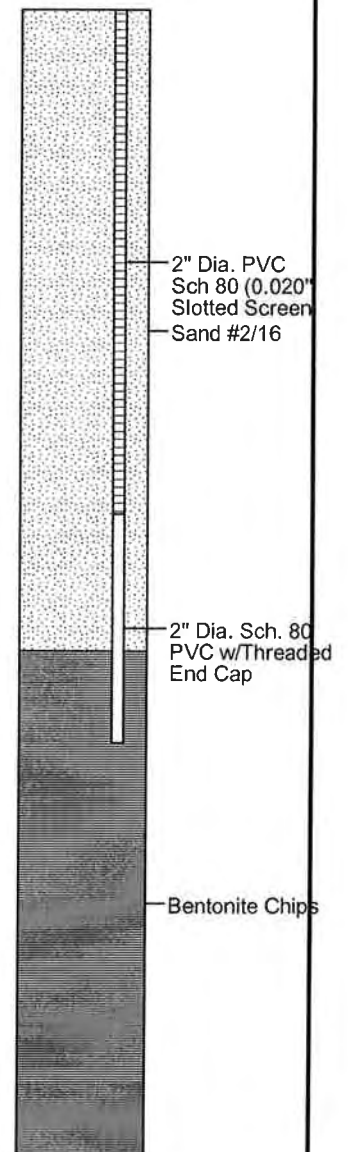
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : June 17, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud Rotary

OVA : MiniRae  
Driller : Steve, Joe, Daniel  
Sampling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
150									Change in soil type based on driller observation and on material from mud return.
							SP-SW		Poorly to well graded SAND, very fine to high-end medium-grained (max 2 mm dia.)
155			OC2-PMW18 W-0-22	12:15 13:50			ML		(155-157' from Simulprobe): Clayey SILT, firm, (<1/4" penetration), olive (5Y 4/4), wet, low toughness, high plasticity, rapid dilatency, low dry strength with low liquid limit.
160							SP-SW		Driller indicates "gravel" ~2' thick at 157-159.  E-logs suggest resistant material from ~158-163'.
165			No Water Recovery	14:20 16:50		0%	ML		Clayey SILT (with Sand) off mud return at ~162'.  (165-167' Simulprobe): Clayey Sandy SILT, ~10% Clay, 50% Silt, 30-40% fine Sand; firm (<1/4" penetration), olive (5Y 4/4), moist to wet but not saturated.
170				6/16/05 7:15					
175							SP		(Based on E-logs)

Well1: MW18A  
Well2: MW18B  
Well3: MW18C  
Elev.: 144.74



In greenbelt on south side of Ann Street, ~140 ft. East of Santa Fe Springs Road, on north side of Liz Clairborne facility at 9400 Santa Fe Springs Road.

Elevation = finished surface; A = Shallow; B = Intermediate; C = Deep



**ARCADIS**

Infrastructure, environment, facilities

**LOG OF BORING MW18**

(Page 8 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001Date Completed : June 17, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : GF Star30 Mud RotaryOVA : MiniRae  
Driller : Steve, Joe, Daniel  
Sampling Method : Simulprobe/Split Spoon  
Diameter : 8 3/4  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
175			OC2-PMW18 W-0-24	9:50	0.1 0.1		SP		(175-176' Simulprobe): Poorly graded SAND, ~5% silt, moist to wet but not saturated, olive gray (5Y 4/2).
							ML		(176-177' Simulprobe): SILT, moist to wet, not saturated, olive gray (5Y 4/2), ~1 cm horizontal layer of yellowish discoloration.
180									(180' off mud return): Poorly graded SAND, fine to medium-grained (up to 1.5 mm), less than 3% coarse, driller indicates some gravel.
185			OC2-PMW18 W-0-26	12:50			SP		(185-187' off Simulprobe): Poorly graded SAND, fine-grained (max 0.2 mm dia.), grayish brown (2.5Y 5/2), saturated; horizontal oxidized banding at ~186.5 ft. (1" thick) with horizontal fracture plane. Oxidized banding is strong brown (7.5YR 4/6) to dark yellowish brown (10YR 4/6).
190									
									Bottom of boring 190'.
195									
200									

Well1: MW18A  
Well2: MW18B  
Well3: MW18C  
Elev.: 144.74

Bentonite Chips

09-08-2006 COMMONM/Tech5/Omega Chemical/MW-18.BOR

In greenbelt on south side of Ann Street, ~140 ft. East of Santa Fe Springs Road, on north side of Liz Clairborne facility at 9400 Santa Fe Springs Road.

Elevation = finished surface; A = Shallow; B = Intermediate; C = Deep

**ARCADIS**

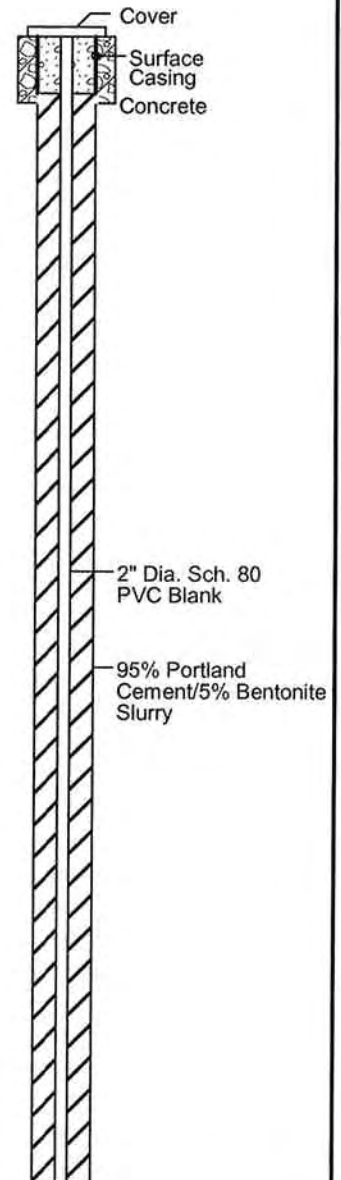
Infrastructure, environment, facilities

**LOG OF BORING MW19**

(Page 1 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001Date Completed : May 3, 2006  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15KOVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 6"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
0									Concrete to ~4".
							ML		(0.5-5') SILT with Clay, medium stiff, dark yellowish brown (10YR 3/6) to brown (7.5YR 4/3), slightly moist.
5									(5-9' Core) Silt, medium stiff, brown (10YR 4/3), moist, low toughness, low plasticity, low dry strength.
10							SP-SM		(9-11' Core) Poorly graded SAND with Silt to Silty SAND, ~10-20% Silt, ~80-90% fine Sand, medium dense, dark grayish brown (10YR 4/2), moist.
15							ML		(11-12' Core) SILT with Sand; ~20% fine Sand, ~80% Silt, olive gray (5Y 5/2), slightly moist, no odor. (12-18' Core) Non plastic SILT, stiff, dark greenish gray (Gley 1 4/2), mottled with light greenish gray (Gley 1 7/1), moist, no odor.
20									(18-19' Core) Non plastic SILT, soft, dark greenish gray (Gley 1 4/1), wet, no odor, (bordering fine Sand, max. diameter ~0.05 mm).

Well: MW19  
Elev.: 158.94

DESCRIPTION OF BORING LOCATION: In sidewalk on southside of McCann, opposite Bell Ranch Drive.


NOTES: Depth in feet below ground surface (bgs). Continuous core; Elevation noted is ground surface elevation.

# LOG OF BORING MW19

(Page 2 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: May 3, 2006	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	:
Checked By	: Ronald Halpern, PG	Sampling Method	: Core/Simulprobe
Drilling Company	: WDC	Diameter	: 6"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
20				11:15					(19-25') Clayey SILT with Sand: ~5-10% Clay; ~20% very fine Sand, ~70-75% Silt; hard, very dark grayish brown (10YR 3/2 to 2.5Y 3/2), slightly moist; moderate to high toughness, low to moderate plasticity, slow dilatency.	 <p>2" Dia. Sch. 80 PVC Blank</p> <p>95% Portland Cement/5% Bentonite Slurry</p>
25							ML		(25-30') Non plastic SILT; medium stiff, dark olive gray (5Y 3/2), moist.	
30									(30-32') Non plastic SILT; hard to medium stiff, dark olive gray (5Y 3/2), mottled with olive brown (2.5Y 4/3), slightly moist to moist.	
35				12:10			SP		(32-33) Poorly graded SAND; fine-grained, olive gray (5Y 5/2), slightly moist.	
40							ML		(33-33.5') Non plastic SILT; medium stiff to stiff, dark greenish gray (Gley 1 4/1) mottled with light greenish gray (Gley 1 7/1), moist.  (33.5-39) Non plastic SILT bordering very fine Sand (<0.05 mm diameter); olive gray (5Y 5/2), slightly moist.	
							SP-SM		(39-46) Poorly graded SAND with Silt: ~10-20% Silt, 80-90% fine Sand (<0.4 mm diameter); olive gray (5Y 4/2), slightly moist.	

DESCRIPTION OF BORING LOCATION: In sidewalk on southside of McCann, opposite Bell Ranch Drive.

NOTES: Depth in feet below ground surface (bgs). Continuous core; Elevation noted is ground surface elevation.



# LOG OF BORING MW19

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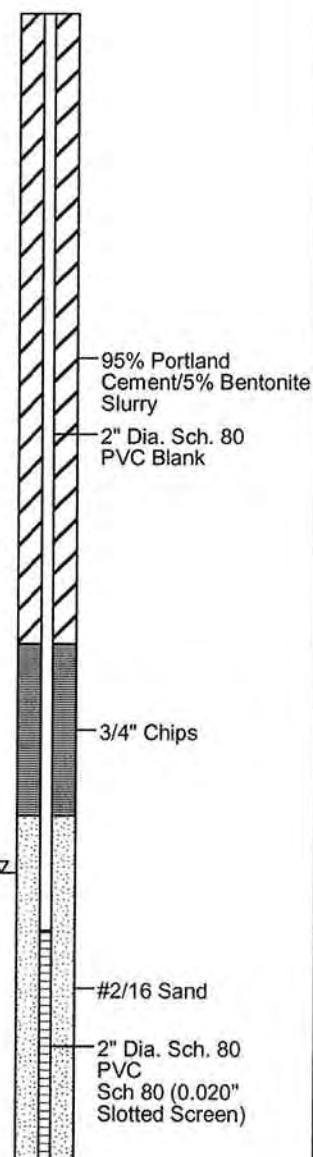
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 3, 2006  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15K

OVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 6"  
Calibration Gas/Conc : 100 ppm isobutylene

Well: MW19  
Elev.: 158.94

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
40									
45									
50									
55				13:05			SP-SM		(46-55' Core) Poorly graded SAND/Silty SAND; cemented ~20% Silt, ~60% fine Sand, ~20% medium and coarse Sand (subangular); dark greenish gray (Gley 1 4/1), dry; trace subrounded fine gravel (to 8 mm diameter)(igneous).
							SW		(55-57' Core) Well graded SAND; fine to coarse grained (max 4 mm diameter) of granitic origin; dark gray, wet.
							SP-SM		(57-58' Core) Poorly graded SAND with Silt/Silty SAND: ~10-20% silt, 80-90% fine to medium grained (max diameter 0.75 mm) Sand, dark greenish gray (Gley 1 4/1), wet.
60							SP		(58-65' Core) Predominantly fine to medium grained (80-85%), some coarse (10%), gray, wet.



DESCRIPTION OF BORING LOCATION: In sidewalk on southside of McCann, opposite Bell Ranch Drive.

NOTES: Depth in feet below ground surface (bgs). Continuous core; Elevation noted is ground surface elevation.

# LOG OF BORING MW19

(Page 4 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 3, 2006  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15K

OVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 6"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: MW19 Elev.: 158.94
60										
65										
68			OC2-PMW19 W-0-3	16:25			SP		Same as above.  (68-75' Core) Poorly graded SAND, fine to medium grained (max 1 mm diameter), olive (5Y 5/4), wet.	2" Dia. Sch. 80 PVC Sch 80 (0.020" Slotted Screen)
70										#2/16 Sand
75				16:50			CL		(75-76' Core) Silty CLAY; stiff, brown (10YR 4/3), moist.	2" Dia. Sch. 80 PVC Blank
80									Bottom of boring at 76'.	

DESCRIPTION OF BORING LOCATION: In sidewalk on southside of McCann, opposite Bell Ranch Drive.

NOTES: Depth in feet below ground surface (bgs). Continuous core; Elevation noted is ground surface elevation.

# LOG OF BORING MW20

(Page 1 of 8)

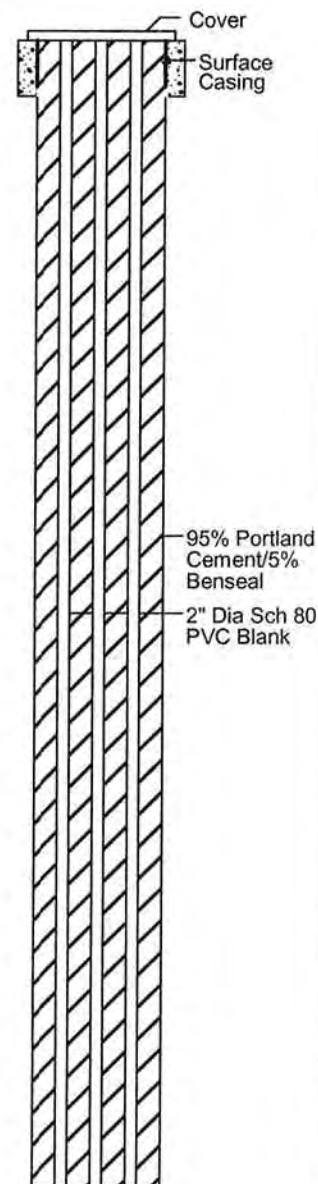
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 22, 2006  
Logged By : Jeremy Cook  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : SpeedStar 30K Mud Rotary

OVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 10"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
0									SILT/SILT with Sand and Gravel, ~10-15% medium to coarse sand and fine gravel (1-10 mm diameter) reddish brown, dry.
5							ML		(8') Same as above.
10									
15							SP		Poorly graded SAND; predominantly very fine and fine-grained ~3-5% medium to coarse sand, ~3-5% fine gravel (to 10 mm diameter); reddish brown, slightly moist.
20									
25							SW		Well graded SAND, fine to coarse, subrounded grains (max 5 mm diameter).

Well1: MW-20A  
Well2: MW-20B  
Well3: MW-20C  
Elev.: 141.99



PMW-20 is in th sidewalk on east side of Geary Road in Santa Fe Springs, adjacent to the southwest corner of Cascade Water Pumps facility. Directly to the east is a oil field with 6 wells.

Elevation noted is ground surface. A = Shallow; B = Intermediate; C = Deep





**ARCADIS**  
Infrastructure, environment, facilities

## LOG OF BORING MW20

(Page 2 of 8)

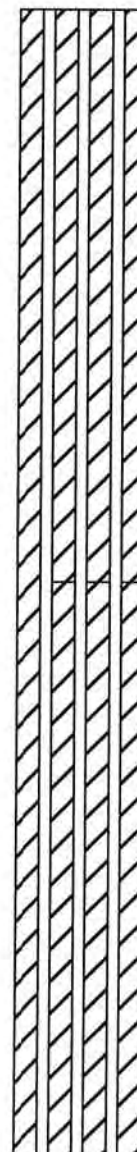
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 22, 2006  
Logged By : Jeremy Cook  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : SpeedStar 30K Mud Rotary

OVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 10"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
25							SW			
30									Poorly graded SAND: medium to coarse, poorly graded, subangular-subrounded.	
35										
40							SP			
45									Ended 5/17/06.	
50									Poorly graded SAND with GRAVEL, fine to medium sand; appears to be increasing in moisture content.	

Well1: MW-20A  
Well2: MW-20B  
Well3: MW-20C  
Elev.: 141.99



95% Portland  
Cement/5%  
Benseal  
2" Dia Sch 80  
PVC Blank

PMW-20 is in the sidewalk on east side of Geary Road in Santa Fe Springs, adjacent to the southwest corner of Cascade Water Pumps facility. Directly to the east is an oil field with 6 wells.

Elevation noted is ground surface. A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW20

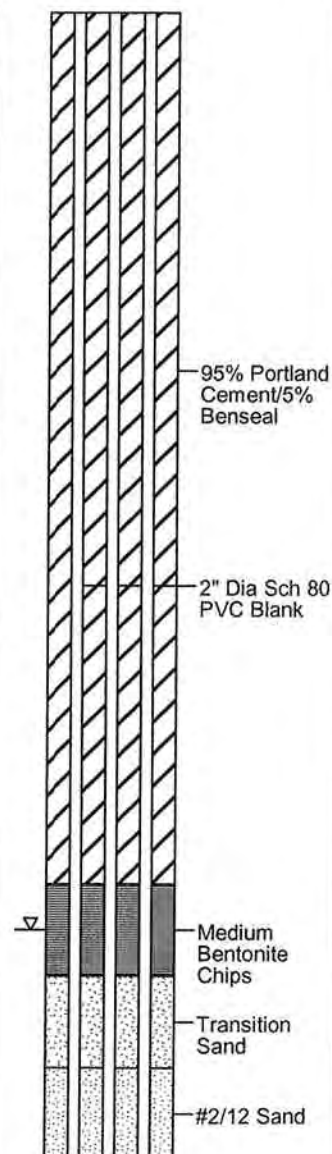
(Page 3 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 22, 2006  
Logged By : Jeremy Cook  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : SpeedStar 30K Mud Rotary  
OVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 10"  
Calibration Gas/Conc : 100 ppm isobutylene

Well1: MW-20A  
Well2: MW-20B  
Well3: MW-20C  
Elev.: 141.99

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
50									
55							SP		
60							CL-ML		SILTY CLAY with Sand: medium to coarse sand and fine gravel, gravel is subrounded, (max 10 mm diameter).
									SILTY CLAY, dark gray, passes ribbon test.
65							ML		SILT with CLAY.
70			OC2-PMW20 W-0-1				SP-SM		(Driller notes chatter at 71').  Poorly graded SAND, fine-grained (0.1-0.5 mm diameter), some silt, wet.
75									



PMW-20 is in the sidewalk on east side of Geary Road in Santa Fe Springs, adjacent to the southwest corner of Cascade Water Pumps facility. Directly to the east is a oil field with 6 wells.

Elevation noted is ground surface. A = Shallow; B = Intermediate; C = Deep



**ARCADIS**  
Infrastructure, environment, facilities

## LOG OF BORING MW20

(Page 4 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 22, 2006  
Logged By : Jeremy Cook  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : SpeedStar 30K Mud Rotary

OVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 10"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
75										Well1: MW-20A Well2: MW-20B Well3: MW-20C Elev.: 141.99
80	X		OC2-PMW20 W-1-2							
	X		OC2-PMW20 W-0-3	13:00			SP-SM		Poorly graded SAND with Silt; fine-grained, wet.	2" Dia PVC Sch 80 (0.020" Slotted Screen
85										#2/12 Sand
90	X		OC2-PMW20 W-0-5	15:30						2" Dia Sch 80 PVC Blank
95							ML		Non plastic SILT, dark olive brown, moist.	2" Dia Sch 80 PVC with Threaded End Cap
100										1:1 Bentonite Crumble/ Sand #3

PMW-20 is in the sidewalk on east side of Geary Road in Santa Fe Springs, adjacent to the southwest corner of Cascade Water Pumps facility. Directly to the east is a oil field with 6 wells.

Elevation noted is ground surface. A = Shallow; B = Intermediate; C = Deep



# LOG OF BORING MW20

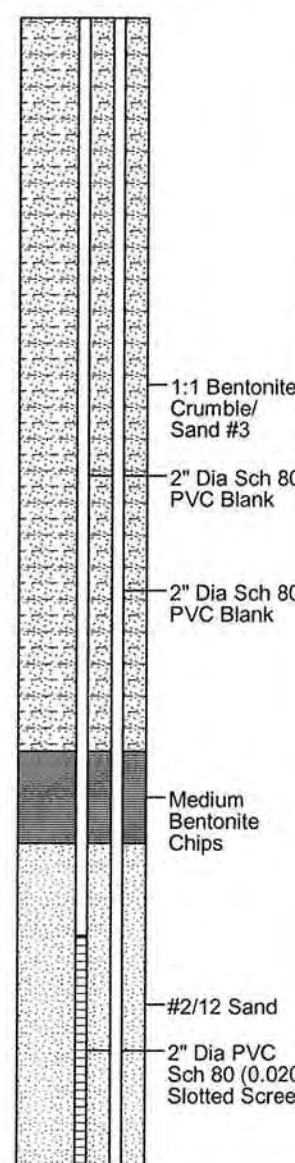
(Page 5 of 8)

 Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed	: May 22, 2006	OVA	: MiniRae
Logged By	: Jeremy Cook	Driller	:
Checked By	: Ronald Halpern	Sampling Method	: Core/Simulprobe
Drilling Company	: WDC	Diameter	: 10"
Drill Rig	: SpeedStar 30K Mud Rotary	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
100							ML		
			OC2-PMW20 W-0-6	16:40			SP-SC		Poorly graded SAND with Clay, fine-grained.
105				Resume 5/19/06					
							SP		Chatter from ~105-110, possible Gravel.
110									
			OC2-PMW20 W-0-08	9:30					(111-113' Simulprobe) Poorly graded SAND, fine-grained, olive (5Y 4/3), wet, no odor.
115							CL		(113' Shoe) SILTY CLAY, medium stiff to stiff, yellowish brown (10YR 5/4), moist to wet, moderately tough, moderate plasticity, medium dilatency, high dry strength, no odor.
120				10:10			SP		(117' Off mud return), SAND, poorly graded, predominantly fine to medium-grained.
			OC2-PMW20 W-0-11	11:35					(122-123' Simulprobe) Poorly graded SAND: ~3-5% Silt, ~95-97% predominantly fine to medium Sand (~0.1-2 mm diameter), ~3-5% coarse Sand (max 5 mm diameter), olive (5Y 4/3), saturated, sand subrounded, ~10-20% mafic minerals, ~60-70% quartz, ~20-30% plags.
125									

Well1: MW-20A  
 Well2: MW-20B  
 Well3: MW-20C  
 Elev.: 141.99



PMW-20 is in th sidewalk on east side of Geary Road in Santa Fe Springs, adjacent to the southwest corner of Cascade Water Pumps facility. Directly to the east is a oil field with 6 wells.

Elevation noted is ground surface. A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW20

(Page 6 of 8)

Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed : May 22, 2006  
 Logged By : Jeremy Cook  
 Checked By : Ronald Halpern  
 Drilling Company : WDC  
 Drill Rig : SpeedStar 30K Mud Rotary

OVA : MiniRae  
 Driller :  
 Sampling Method : Core/Simulprobe  
 Diameter : 10"  
 Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
125							SP		(Off mud return at ~127'): Poorly graded SAND - as above.	Well1: MW-20A Well2: MW-20B Well3: MW-20C Elev.: 141.99
130			OC2-PMW20 W-0-12	12:00			SW		(130-133' Simulprobe) Well graded SAND: ~3-5% Silt, fine to coarse Sand (95%), trace fine gravel (max 10 mm diameter), subrounded, ~25% mafic, ~50-70% quartz, 15-25% plag and other, saturated, no odor.	2" Dia PVC Sch 80 (0.020" Slotted Screen)
135				13:35			SP-SM		(133' in Shoe) Poorly graded SAND with SILT, ~5-10% Silt, 90-95% fine grained sand, olive (5Y 4/3), wet.	#2/12 Sand
140			OC2-PMW20 W-0-14	14:25			ML-SM		SANDY SILT, possible change to Silt from mud return.	2" Dia Sch 80 PVC with Threaded End Cap
145				5/19/06					(142-143' Simulprobe) Poorly graded Sandy non-plastic SILT/SILTY SAND, ~40-60% Silt, ~60-40% fine Sand, (max diameter ~0.3 mm), olive gray (5Y 4/2), with strong brown (7.5Y 4/6 to 5/6) oxidation staining on horizontal planes, wet, micaceous.	2" Dia Sch 80 PVC Blank
150				5/22/06			SW		(148-149' Mud Return) Well graded SAND, fine to coarse grained (max diameter 5 mm), ~20-30% mafic, 20-30% plag, ~5 ortho, 35-55% quartz, subangular, speckled black, white, olive brown, saturated.	1:1 Bentonite Crumble/ Sand #3

PMW-20 is in the sidewalk on east side of Geary Road in Santa Fe Springs, adjacent to the southwest corner of Cascade Water Pumps facility. Directly to the east is a oil field with 6 wells.

Elevation noted is ground surface. A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW20

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Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 22, 2006  
Logged By : Jeremy Cook  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : SpeedStar 30K Mud Rotary

OVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 10"  
Calibration Gas/Conc : 100 ppm isobutylene

Well1: MW-20A  
Well2: MW-20B  
Well3: MW-20C  
Elev.: 141.99

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
150			OC2-PMW20 W-0-16	9:15			SW		
153			OC2-PMW20 W-1-17	9:15			ML		(Shoe of Simulprobe and mud return) (153') CLAY with Sand, lean, ~10-20% fine to medium Sand, ~80-90% Silty Clay, dark greenish gray (Gley 1 4/1), wet.
160				9:50					
161.5				11:32		None			(161.5-162.5' Simulprobe) SILT with Clay, hard, dark greenish grey (Gley 1 4/1), moist, moderately plastic.
162.5							CL		(162.5-163') Silty CLAY, hard, dark greenish gray, moist, moderately plastic.
168									At 168' off mud return - same as above.
170				13:35		None	ML		(171.5-173 Simulprobe) SILT with Clay, stiff (fingernail impression), dark greenish gray (Gley 1 4/1), moist, low plasticity.
175									



1:1 Bentonite  
Crumble/  
Sand #3  
2" Dia Sch 80  
PVC Blank

PMW-20 is in th sidewalk on east side of Geary Road in Santa Fe Springs, adjacent to the southwest corner of Cascade Water Pumps facility. Directly to the east is a oil field with 6 wells.

Elevation noted is ground surface. A = Shallow; B = Intermediate; C = Deep



# LOG OF BORING MW20

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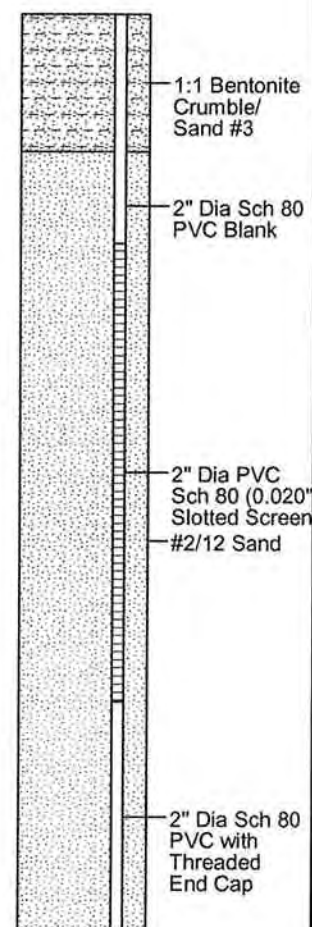
Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 22, 2006  
Logged By : Jeremy Cook  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : SpeedStar 30K Mud Rotary

OVA : MiniRae  
Driller :  
Sampling Method : Core/Simulprobe  
Diameter : 10"  
Calibration Gas/Conc : 100 ppm isobutylene

Well1: MW-20A  
Well2: MW-20B  
Well3: MW-20C  
Elev.: 141.99

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
175							ML		
180			OC2-PMW20 W-0-18	14:26 15:47			SP		(181.5-183 Simulprobe) Poorly graded SAND, ~3-5% Silt, ~95-97% fine to medium Sand (max 2 mm diameter), dark greenish gray to dark greenish black (Gley 1 3/1 to 2.5/1), wet.
185									At 187' off mud return - same as above.
190									
195				16:25			SM CL		At 193' off mud return - same as above.  (194-194.75' Simulprobe) Well graded Silty SAND w/gravel and clay, ~20-25% coarse gravel (~15-25 mm dia., subangular-subrounded igneous), ~50-60% fine to coarse sand, ~20-25% dark greenish gray silt with clay (Gley 1 3/1) matrix.  (194.75-195' Shoe) Silty CLAY, ~5-10% fine to medium sand in a silty clay matrix, stiff, dark greenish gray to greenish black (Gley 1 3/1-2.5/1), moist.
200									Bottom of boring 195'.



PMW-20 is in the sidewalk on east side of Geary Road in Santa Fe Springs, adjacent to the southwest corner of Cascade Water Pumps facility. Directly to the east is a oil field with 6 wells.

Elevation noted is ground surface. A = Shallow; B = Intermediate; C = Deep

# LOG OF BORING MW21

(Page 1 of 4)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 1, 2006  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15K

OVA : MiniRae  
Driller : Rivera  
Sampling Method : Core/Simulprobe  
Diameter : 6"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
0									Grass surface to ~6".	Cover
									(0.5-3'): SAND and SAND with SILT; ~5-10% silt, 90-95% fine to medium sand, gray (5Y 5/1), moist, strong petroleum odor.	Surface Casing
									(3-3.5'): Asphaltic layer, possibly remnant of oil field road (extensive laterally).	
									SAND - same as above, crude petroleum odor.	
5							SP-SM			
10						>4000				
							ML		(12.5-13.5'): SILT, soft, black (5Y 2.5/1), wet, strong petroleum odor, ~3-5% organic (wood chips) debris. (Fill ?).	95% Cement/ 5% Benseal Slurry
						>4000	SP-SM		(13.5-15'): Poorly graded SAND with Silt, ~5-10% silt, 90-95% fine to medium sand, gray (5Y 5/1), moist, petroleum odor.	2" Dia Sch 80 PVC Blank
15							ML		(15-17'): SILT, soft, black (5Y 2.5/1), wet, low to moderate odor, peat and wood chips ~16.75 ft. (Fill ?).	
						>4000				
20				10:30		50	SW		(17-25'): Well graded SAND with Gravel, ~70% fine to coarse sand, subrounded, ~30% fine and coarse subrounded igneous gravel (max 60 mm diameter), dark yellow brown (10YR 3/6), moist.	
25										

DESCRIPTION OF BORING LOCATION: On west side of Pioneer Blvd., in green belt in front of 9929 Pioneer Blvd., ~4 feet from curb.

NOTES: Depth in feet below ground surface (bgs). Elevation = finished surface.

# LOG OF BORING MW21

(Page 2 of 4)

 Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed	: May 1, 2006	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Rivera
Checked By	: Ronald Halpern, PG	Sampling Method	: Core/Simulprobe
Drilling Company	: WDC	Diameter	: 6"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: MW21 Elev.: 128.91
25									(~25-36'): Well graded SAND with SILT, ~5% fine subangular gravel (max 15 mm diameter), ~15% silt, ~80% fine to coarse sand, (maximum 5 mm diameter), subangular, cemented, hard, light olive brown (2.5Y 5/4), dry.	
30							SW-SM			
35							SW		(36-38'): Well graded SAND with Gravel, ~20% predominantly fine subangular, igneous gravel (max 8 mm diameter), ~80% fine to coarse sand (max 5 mm diameter), subangular, olive brown (2.5Y 4/3), dry.	
40				11:10			CL-CH		(38-40'): Fat CLAY, medium stiff, olive brown (2.5Y 4/3), moist to wet, some black organic staining (crude?), positive ribbon test, moderate toughness, no dilatency, high plasticity, high dry strength.	
45							SP		(40-48'): Poorly graded SAND, fine-grained, trace Silt, light olive brown (2.5Y 5/3), slightly moist.	
50							SW		(48-49.5'): Cemented, well graded SAND with Gravel, ~5% Silt, 85% fine to coarse sand, ~10% fine subangular igneous gravel, hard, light olive brown (2.5Y 5/6), slightly moist, no odor.	
							ML-SM			

95% Cement/  
5% Benseal  
Slurry

2" Dia Sch 80  
PVC Blank

DESCRIPTION OF BORING LOCATION: On west side of Pioneer Blvd., in green belt in front of 9929 Pioneer Blvd., ~4 feet from curb.

NOTES: Depth in feet below ground surface (bgs). Elevation = finished surface.



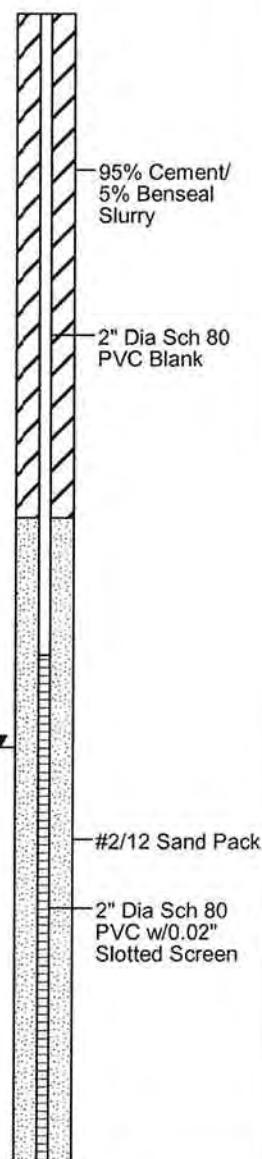
# LOG OF BORING MW21

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Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: May 1, 2006	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Rivera
Checked By	: Ronald Halpern, PG	Sampling Method	: Core/Simulprobe
Drilling Company	: WDC	Diameter	: 6"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: MW21 Elev.: 128.91
50				12:50			ML-SM			
							SM		(50.5-52'): Well graded Silty SAND, ~20% silt, 70-75% fine to coarse rounded Sand (max 5 mm diameter), ~10% fine rounded igneous Gravel, dense, olive brown (2.5Y 4/3), wet (due to cleanout water), w/black org staining (no odor)	
							SP			
55							CL		(52-54'): Poorly graded SAND, ~3-5% fine and coarse subrounded igneous Gravel (max 70 mm diameter), brown (7.5YR 5/4), dry.	
							ML-SP		(54-56'): Interbedded CLAY and CLAYEY SAND (with iron staining), clay stiff (<1/4" penetration).	
									(56-57'): SILT/Poorly graded SAND.	
									(57-58'): Poorly graded SAND, fine to medium grained (maximum 1 mm diameter), brown.	
60							SP			
									Wet at 66 feet.	
65										
				15:00			SW		(68-69' Split Spoon): Well graded SAND, ~3-5% silt, 95-97% fine to coarse sand (maximum 5 mm diameter), subrounded, dense, yellowish brown (10YR 5/4), wet, occasional subangular to subrounded igneous fine and coarse gravel (maximum 28 mm diameter).	
70			OC2-PMW21 W-0-03	5/1/06						
				8:15			SP		(69-76'): Poorly graded SAND, ~3-5% subangular to subrounded, igneous, fine to coarse gravel (maximum 50 mm diameter), 95-97% fine to medium sand (maximum 1.5 mm diameter), yellow brown (10YR 5/4), wet.	
75										



DESCRIPTION OF BORING LOCATION: On west side of Pioneer Blvd., in green belt in front of 9929 Pioneer Blvd., ~4 feet from curb.

NOTES: Depth in feet below ground surface (bgs). Elevation = finished surface.

# LOG OF BORING MW21

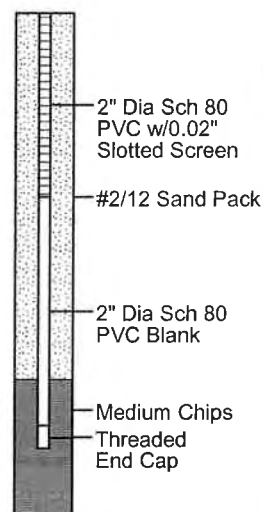
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Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: May 1, 2006	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Rivera
Checked By	: Ronald Halpern, PG	Sampling Method	: Core/Simulprobe
Drilling Company	: WDC	Diameter	: 6"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
75			OC2-PMW21 W-0-03	8:15					
							SP		
			OC2-PMW21 W-0-05	9:55			SW		(76-78.5'): Well graded SAND with Gravel, ~3-5% Silt, ~15-20% fine subrounded (granitic) gravel (max 8 mm diameter), ~75-80% fine to coarse sand, grayish brown (10YR 5/2), wet.
80							SP		(78.5-81'): Poorly graded SAND, fine grained (maximum 0.5 mm), olive brown (2.5Y 4/3), wet.
							ML		(81-85.5'): Non plastic SILT, medium stiff, light olive brown (2.5Y 5/4), moist, low to toughness, low plasticity, moderate dilatency, low dry strength.
85							SP-SM		(85.5-86'): Poorly graded SAND with Silt, ~5-10% Silt, ~90-95% predominantly fine sand, with ~3-5% medium grained (maximum 2 mm diameter), occasional fine gravel (maximum 6 mm diameter), olive brown (2.5Y 5/4), moist.
90									Bottom of boring at 86'.
95									
100									

Well: MW21  
Elev.: 128.91



DESCRIPTION OF BORING LOCATION: On west side of Pioneer Blvd., in green belt in front of 9929 Pioneer Blvd., ~4 feet from curb.

NOTES: Depth in feet below ground surface (bgs). Elevation = finished surface.

# LOG OF BORING MW-22

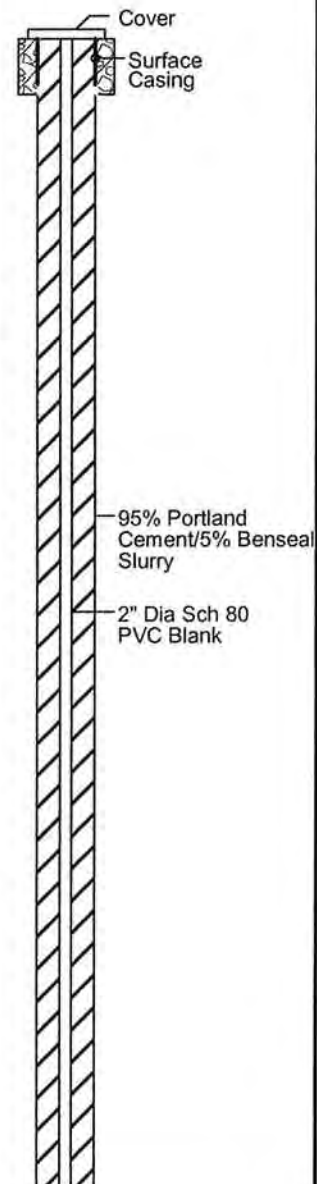
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Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: April 27, 2006	OVA	: MiniRae
Logged By	: Ronald Halpern	Driller	:
Checked By	: Ronald Halpern	Drilling Method	: Sonic
Drilling Company	: WDC	Diameter	: 6"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
0								Sod to ~6".	
			4/24/06			SM		SILTY SAND, ~20-30% silt, ~70-80% fine sand, soft, brown to reddish brown, wet, rootlets (Fill).	
5			4/25/06 9:40			SM-SC		Post hole to 5 ft. SILTY SAND with CLAY, CLAYEY SAND with SILT, ~60-80% fine Sand, ~20-40% silt and clay, medium stiff, dark brown (10YR 8/2), moist.	
			9:55					Same as above.	
10						SP		(10-10.67') Poorly graded SAND, fine-grained (max. 0.5 mm diameter), dark yellowish brown (10YR 4/6), slightly moist.	
						ML		(10.67-12.5') Non plastic SILT, medium stiff, friable, olive brown (2.5Y 4/4), moist.	
						SP		(12.5-14') Poorly graded SAND, fine-grained, yellowish brown (10YR 5/4), moist.	
						ML		(14-14.67') SILT, stiff to hard, olive brown (2.5Y 4/4), slightly moist, low to medium toughness, low to medium plasticity, low dry strength.	
15			10:10			SP-SM			
						ML			
						SP		(14.67-15') Poorly graded SILTY SAND, SAND with SILT, ~10-20% silt, 80-90% fine sand, (max. 0.5 mm diameter), olive brown (2.5Y 4/3), slightly moist.	
20						SM		(15-15.3') SILT with CLAY, hard, slightly moist, brown (10YR 4/3), mottled with oxidation stains, low toughness, medium plasticity, low dry strength, and yellowish brown, horizontal lamina.	
			11:00					(15.3-16.3') Poorly graded SAND, fine to medium grained, (max 1 mm diameter), light olive brown (2.5Y 5/4), slightly moist.	
						SP		(16.3-16.7') Poorly graded SILTY SAND, ~20-30% silt, 80-90% fine to low end medium sand (max 1 mm diameter) hard, friable, (semiconsolidated) brown (10YR 4/3), slightly moist, mottled with oxidation stains.	
25									

Well: MW-22  
Elev.: 151.36



DESCRIPTION OF BORING LOCATION: On east side of Arlee, just north of Terradell, ~3 1/2 ft. in from curb.

NOTES: Depth in feet below ground surface (bgs). Elevation noted is ground surface/finished surface.



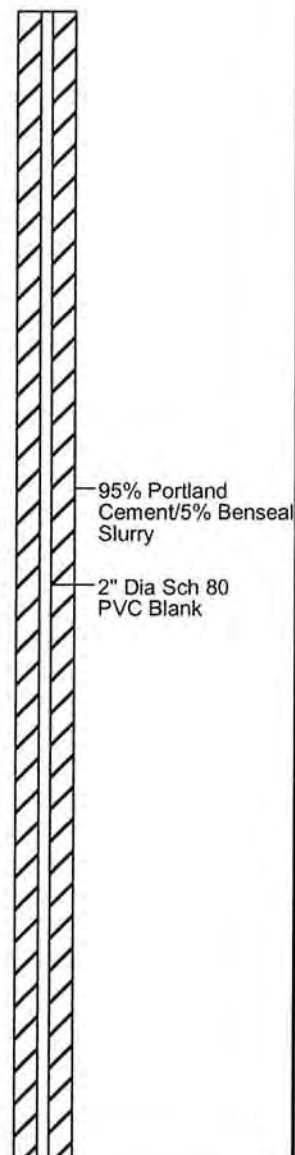
# LOG OF BORING MW-22

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Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: April 27, 2006	OVA	: MiniRae
Logged By	: Ronald Halpern	Driller	:
Checked By	: Ronald Halpern	Drilling Method	: Sonic
Drilling Company	: WDC	Diameter	: 6"
Drill Rig	: Sonic SpeedStar 15K	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: MW-22 Elev.: 151.36
25						SP		(23-26') Poorly graded SAND, fine (max 0.3 mm diameter), light olive brown (2.5Y 5/3), slightly moist, trace fine and coarse gravel size rounded, nodules consolidated sand.	
						SP-ML			
						SP-SM		(26-26.5') Poorly graded SAND/SILT; very fine sand bordering silt, olive brown, hard, slightly moist, consolidated.	
			11:00			SM-SS		(26.5-29') Well graded SAND with GRAVEL, ~3-5% silt, ~25% fine and coarse gravel (sedimentary) ~70% well-graded fine to coarse sand (max 5 mm diameter), light olive gray (5Y 6/2), slightly moist.	
30						SW		(29-30') Poorly graded SILTY SAND, ~20-30% silt, ~10-15% med-coarse sand, ~55-70% fine sand consolidated, hard, dark grayish brown (2.5Y 4/2), moist, trace fine gravel (3-5%).	
						SW-SM			
35						SP		(30-33') Well graded SAND with GRAVEL, ~60-70% fine to coarse sand (max 5 mm diameter), subangular, ~30-40% fine and coarse subrounded to subangular gravel (max 60 mm diameter), light yellowish brown (2.5Y 6/3), slightly moist, gravel igneous to wet.	
			11:55					(33-34') Well graded SAND with SILT and GRAVEL, ~5-10% silt, ~60% fine to coarse sand (max 5 mm diameter), ~30% fine and coarse subangular to angular gravel (max 30 mm diameter), light brownish gray (2.5Y 6/2), slightly moist, gravel is consolidated sedimentary (Sand and Silty Sand).	
40						SW-SM			
								(34-38.5') Poorly graded SAND, predominantly fine to medium (max 2 mm diameter) sand, ~5-10% coarse sand, 3-5% fine subrounded gravel, light olive brown, slightly moist.	
45						SP		(38.5-43') Well graded SAND with GRAVEL, fragmented sand stone, ~5-10% silt, ~50% fine to coarse sand (max 5 mm diameter), ~40% fine gravel size subangular to angular rock chips (sedimentary).	
			13:10					(43-47.5') Poorly graded SAND, ~5-10% subrounded fine and coarse gravel (igneous and metamorphic), ~90-95% fine to medium sand, slightly moist, increasing grain size to coarse like gravel.	
50						SW			



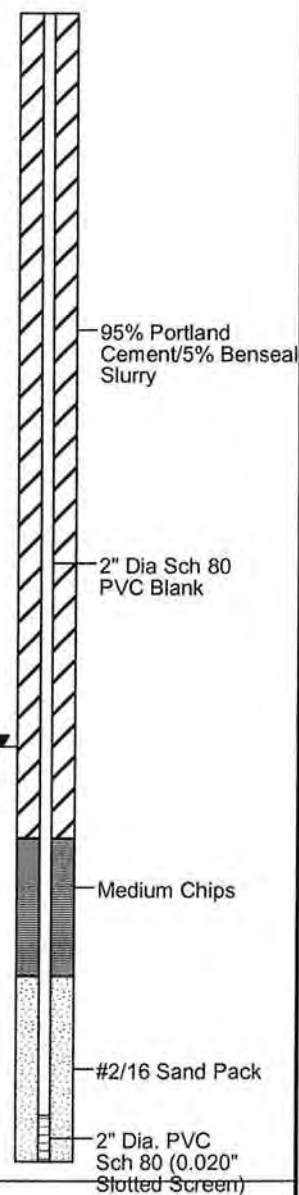
DESCRIPTION OF BORING LOCATION: On east side of Arlee, just north of Terradell, ~3 1/2 ft. in from curb.

NOTES: Depth in feet below ground surface (bgs). Elevation noted is ground surface/finished surface.

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : April 27, 2006  
Logged By : Ronald Halpern  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15K  
OVA : MiniRae  
Driller :  
Drilling Method : Sonic  
Diameter : 6"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	Well: MW-22 Elev.: 151.36
50			13:10			SW		(47.5-53.5') Well graded SAND with GRAVEL, ~20-30% subangular to subrounded igneous gravel (max 40 mm diameter), ~70-80% fine to coarse sand (max 5 mm diameter), light yellowish brown (2.5Y 6/4), slightly moist.  Same as above, light gray (2.5Y 7/2), Gravel fine to coarse (max 20 mm diameter).	
55			15:05			ML		(54.5-55.5') Non plastic SILT with SAND - SANDY SILT, ~25-35% med-coarse sand (max 5 mm diameter), ~65-75% silt, hard, yellowish brown (10YR 5/4), moist, consolidated, trace fine angular gravel.	
						SP		(56-57') Poorly graded SAND, predominantly fine to medium grained, hard, (consolidated), pale olive (5Y 6/3), moist.	
						SP-SM/SW-SM		(57-60') Poorly to well graded SAND with SILT, ~5-10% silt, 50-60% fine sand, ~30-40% coarse sand (max 5 mm diameter), pale olive (5Y 6/3), slightly moist.	
60						ML		(60-61') SILT with SAND, ~15-20% medium to coarse sand (max 5 mm diameter), trace fine gravel (max 8 mm diameter), ~80-85% silt borderline v. fine sand, light olive brown (2.5Y 5/4), dry, occasional coarse gravel (to 30 mm diameter).	
						SW-SM		(61-63') Well graded SAND with SILT, ~5-10% fine subrounded igneous gravel (max 8 mm diameter), ~10-20% silt, ~70-85% fine to coarse sand; light yellowish brown (2.5Y 6/3), dry, increasing gravel to ~15% by 62.5 feet, gets moist to wet by 64 feet, consolidated.	
65						SW		Poorly graded SILTY SAND, ~20% silt, 80% fine sand, hard (fragmented), brown, wet at 66 feet.	
		OC2-PMW22 W-0-04	4/26/06 10:42					(66-76') Poorly graded SAND, fine to medium (max 1 mm diameter), dark olive brown (2.5Y 3/3), wet, occasional coarse gravel (subrounded gneiss and/or igneous max 60 mm), micaceous sand with biotite and mafic minerals.	
		OC2-PMW22 W-1-05	10:43			SP			
70			11:30						
75									



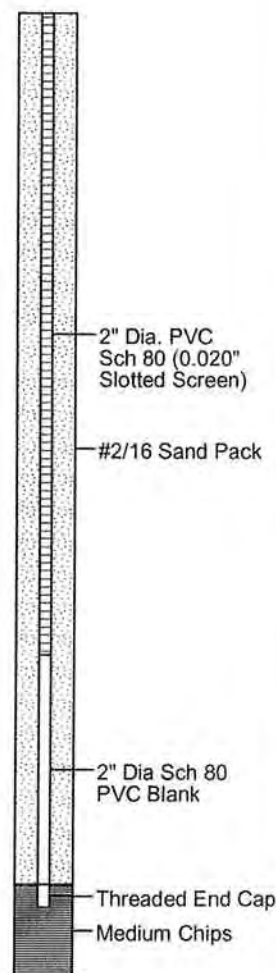
DESCRIPTION OF BORING LOCATION: On east side of Arlee, just north of Terradell, ~3 1/2 ft. in from curb.

NOTES: Depth in feet below ground surface (bgs). Elevation noted is ground surface/finished surface.

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : April 27, 2006  
Logged By : Ronald Halpern  
Checked By : Ronald Halpern  
Drilling Company : WDC  
Drill Rig : Sonic SpeedStar 15K  
OVA : MiniRae  
Driller :  
Drilling Method : Sonic  
Diameter : 6"  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
75			13:40					(76-88') Same as above - increasing grain size - predominantly, fine to medium (0.1 to 2 mm), occasional coarse sand (up to 4 mm diameter), occasional coarse subrounded igneous Gravel (max 30 mm diameter).
80		OC2-PMW22 w-0-06				SP		
85			15:00					
		OC2-PMW22 W-0-07	16:40 4/27/06			ML		(88-88.5') Non plastic SILT, stiff, light olive brown, moist.
90						SP		(88.5-91') Poorly graded SAND, fine to medium (max 2 mm diameter).
			9:00			ML-SM		(91-92') SILT borderline SILTY SAND v. fine Sand <0.1 mm with ~5-10% ~0.1-0.2 mm diameter sand, hard, olive brown, moist to wet, laminar black (organic?) layers, horizontal separation.
						SP		(92-94') Poorly graded SAND, fine to medium grained (max 2 mm diameter).
95						ML		(94-96') Non plastic SILT, ~3-5% fine sand, ~95-97% silt, medium stiff, friable, olive brown (2.5Y 4/3), moist, horizontal laminations.
100								Bottom of boring at 96'.



DESCRIPTION OF BORING LOCATION: On east side of Arlee, just north of Terradell, ~3 1/2 ft. in from curb.

NOTES: Depth in feet below ground surface (bgs). Elevation noted is ground surface/finished surface.



**CH2MHILL****Well Number: MW-23A**

Sheet: 1 of 2

**Client: U.S. EPA****Project: Omega Chemical OU-2****Location:** Beasor Dr. & Burke St., Santa Fe Springs, CA**Project Number: 335392.FI.01****Driller:** Boart Longyear**Drilling Method:** Rotosonic**Sampling Method:** Continuous Core**Logged by:** J. Ockerman**Start/Finish Date:** 5/16/07 to 5/17/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
0	1030	0.0		Ground Surface	0		Hand Auger to 5' bgs
2					2		
5				<b>SILT (ML)</b> very dark grayish brown (2.5 Y 3/2), moist, stiff	5		
10	1050	0.0		<b>SANDY LEAN CLAY (CL)</b> dark yellowish brown (10 YR 4/6), moist, stiff	10		
15				<b>LEAN CLAY (CL)</b> dark grayish brown (10 YR 4/2), moist, 90% fines, 5% fine sand, very stiff	18		
20	1110	0.0		<b>LEAN CLAY (CL)</b> as above	22		
25				<b>LEAN CLAY (CL)</b> as above, except soft, low plasticity	24		
30	1130	0.0		<b>LEAN CLAY (CL)</b> dark grayish brown (10 YR 4/2), moist, 90% fines, 10% fine sand, very stiff	32		
35				<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> brown (10 YR 5/3), moist, 90% medium sand, 10% fines	38		
40	1145	0.0		<b>POORLY GRADED SAND (SP)</b> as above, 10% rounded gravel up to 30 mm	48		
45							Depth to water at 35' bgs
50	1150	0.0		<b>POORLY GRADED SAND (SP)</b> as above			



**CH2MHILL**

# Well Number: MW-23A

Sheet: 2 of 2

**Client:** U.S. EPA

**Project:** Omega Chemical OU-2

**Location:** Beasor Dr. & Burke St., Santa Fe Springs, CA

**Project Number:** 335392.FI.01

**Driller:** Boart Longyear

**Drilling Method:** Rotosonic

**Sampling Method:** Continuous Core

**Logged by:** J. Ockerman

**Start/Finish Date:** 5/16/07 to 5/17/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
55						<p>No. 3 sand</p> <p>8" borehole</p> <p>4" SCH 80 PVC SUMP</p>	
60	1205	0.0		<b>POORLY GRADED SAND WITH GRAVEL (SP)</b> brown (10 YR 5/3), wet, 70% medium to coarse sand, 30% subrounded gravel up to 60 mm	58		
65							
70	1310	0.0		<b>SANDY LEAN CLAY (CL)</b> brown (10 YR 4/3), wet, 60% fines, 40% fine sand, stiff	68		
75				End of Log			
80							
85							
90							
95							
100							

# LOG OF BORING MW23

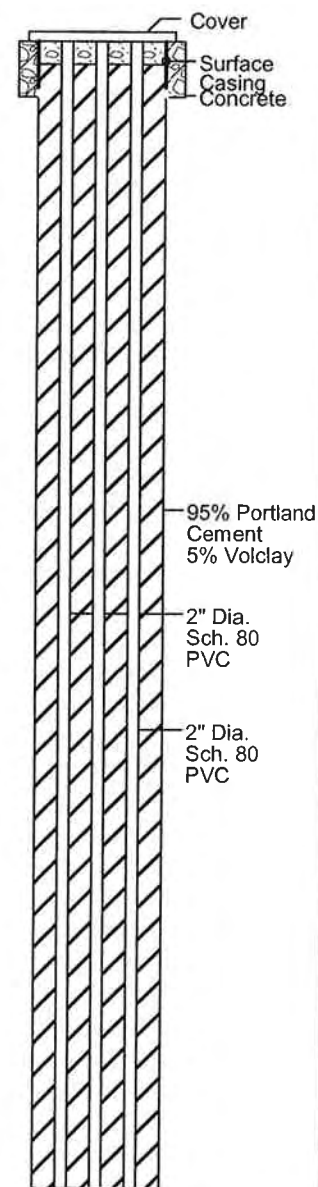
(Page 1 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 20, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Faline Star SOK-CH ARCH/Mud  
OVA : MiniRae  
Driller : Mark Green  
Sampling Method : Core/Simulprobe  
Diameter : 9 3/4 inches  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION
0				5/16/05 @ 16:00					Sod
5									
10									
15				16:05	0.2		ML		(Off cyclone cuttings). SILT with Clay; olive brown, wet, very soft, no odor.
20				16:10					(Off cyclone). Same as above.
25									

Well1: MW23B  
Well2: MW23C  
Well3: MW23D  
Elev.: 149.35



In greenbelt on the northeast side of Burke Street, just northwest of Beasor Road (near PPO34).  
Elevation noted is finished surface grade. B = Intermediate; C = Lower Intermediate; D = Deep



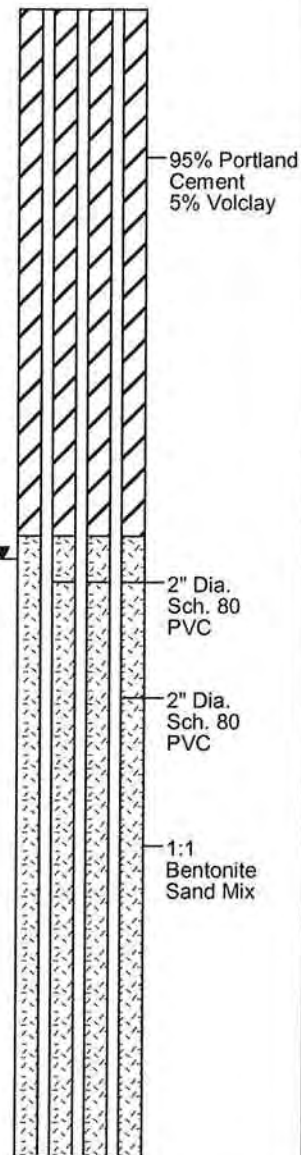
# LOG OF BORING MW23

(Page 2 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 20, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Faline Star SOK-CH ARCH/Mud  
OVA : MiniRae  
Driller : Mark Green  
Sampling Method : Core/Simulprobe  
Diameter : 9 3/4 inches  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
25									(Off cyclone). SILTY CLAY, brown (10YR 4/3), moist, soft, no odor; medium tough, moderate plasticity, no dilatency.	Well1: MW23B Well2: MW23C Well3: MW23D Elev.: 149.35
30				16:30	0.3		CL		(Off cyclone). Same as above, dark brown to brown.	
35				16:33	0.2		SP-SM		(Off cyclone). SAND with Silt; approx. 5-10% brown silt; 90-95% fine-grained sand; dark brown (10YR 3/3), moist, no odor.  Groundwater approx. 37 feet bgs based on water staining on drill rods.	
40			OC2-PMW23 W-0-03	16:40	-		SW		(38-40' Off cyclone). Well graded SAND, approx. 2-5% silt; 95-98% fine to coarse sand (max diam. 5 mm), occasional fine gravel (max. diam. 20 mm); brown (10YR 4/4), wet, no odor.	
45				5/17/05 7:30			GW		Well graded GRAVEL with Sand; approx. 30% fine to coarse sand, 70% fine and coarse gravel (max. diam. 30 mm), subrounded igneous (granitic) gravel.	
50				7:40			SP			



In greenbelt on the northeast side of Burke Street, just northwest of Beasor Road (near PPO34).  
Elevation noted is finished surface grade. B = Intermediate; C = Lower Intermediate; D = Deep



Infrastructure, environment, facilities

# LOG OF BORING MW23

(Page 3 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: May 20, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Mark Green
Checked By	: Ronald Halpern, PG	Sampling Method	: Core/Simulprobe
Drilling Company	: WDC	Diameter	: 9 3/4 inches
Drill Rig	: Faline Star SOK-CH ARCH/Mud	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
50			OC2-PMW23 W-0-05	13:20	2.0				(~50' Off cyclone). Poorly graded SAND, ~95-98% fine to medium grained (max. diam. 1 mm), brown, saturated, trace silt, occasional fine and coarse gravel (max. 35 mm diam).	
55							SP		(From Simulprobe): Poorly graded SAND with Gravel; ~30% fine to coarse gravel, ~70% fine to medium sand (max. diam. 1.5 mm), brown (10YR 4/3) wet to saturated, no odor, Gravel is subangular to subrounded igneous with max. diam. of 25 mm	
60			OC2-PMW23 W-0-07	13:40 16:20	2.2		SW		(Off split-spoon). Well graded SAND, ~5% silt, 95% fine to coarse sand (max. diam. 5 mm), trace fine gravel (max diam. 7 mm), dark grayish brown (10YR 4/2), saturated, no odor.	1:1 Bentonite Sand Mix
65							GW		Well graded GRAVEL with Sand; 60-80% fine and coarse gravel.	2" Dia. Sch. 80 PVC
70							SW		Well graded SAND, fine to coarse, brown, saturated.	2" Dia. Sch. 80 PVC
75							SP		Alternating layers of SP, SW and GW as described above, max. diam. 35-40 mm, subangular to subrounded igneous and metamorphic (gneiss) gravel.	
				17:41	1.9	No Water Recovery			Poorly graded SAND, ~3-5% silt, 95-97% fine to medium sand (max diam 2 mm), brown to dark grayish brown (10YR 4/3-4/4), wet, no odor.	

In greenbelt on the northeast side of Burke Street, just northwest of Beasor Road (near PPO34).  
Elevation noted is finished surface grade. B = Intermediate; C = Lower Intermediate; D = Deep

# LOG OF BORING MW23

(Page 4 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 20, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Faline Star SOK-CH ARCH/Mud

OVA : MiniRae  
Driller : Mark Green  
Sampling Method : Core/Simulprobe  
Diameter : 9 3/4 inches  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
75				5/18/05 7:50						Well1: MW23B Well2: MW23C Well3: MW23D Elev.: 149.35
				7:55	1.5		SP-SM		(Off cyclone). Poorly graded SAND with Silt; ~5-10% brown silt, 90-95% predominately fine to medium sand (max diam 1 mm), very dark grayish brown (2.5Y 3/2), saturated, no odor.	
80	X	90	OC2-PMW23 W-0-013		1.3		ML		Driller noted changes in drilling conditions at 79' bgs. SILT, very dense, olive (5Y 4/3), wet, no odor, rapid dilatency, low toughness, moderate plasticity.	1:1 Bentonite Sand Mix
									Driller felt change in drilling conditions.	Medium Chips
85										2" Dia. Sch. 80 PVC
										#30 Transition Sand
90	X		OC2-PMW23 W-0-16	13:25			SP-SM		(88-90' Off cyclone). Poorly graded SAND, Sand with Silt; ~3-10% silt, very fine to fine sand (max 0.2 mm), speckled brown and black, saturated, no odor, micaceous.	2" Dia. Sch. 80 PVC
				14:28	1.1		SP		(Split-spoon). Poorly graded SAND, fine grained (max 0.5 mm), very dense, olive brown (2.5 YR 4/3), saturated, micaceous, mafic gravels.	2" Dia. Sch. 80 PVC
95							GP		(Off cyclone). Poorly graded GRAVEL with Sand, ~80% fine gravel (max 18 mm), ~20% coarse sand, saturated, subrounded, igneous.	2" Dia. PVC Sch 80 (0.020" Slotted Screen)
				14:48			ML		(Off cyclone). SILT, brown, saturated.	2" Dia. Sch. PVC Blank
100										

In greenbelt on the northeast side of Burke Street, just northwest of Beasor Road (near PPO34).  
Elevation noted is finished surface grade. B = Intermediate; C = Lower Intermediate; D = Deep





Infrastructure, environment, facilities

## LOG OF BORING MW23

(Page 5 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 20, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Faline Star SOK-CH ARCH/Mud

OVA : MiniRae  
Driller : Mark Green  
Sampling Method : Core/Simulprobe  
Diameter : 9 3/4 inches  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
100				15:38	0.3	No Water Sample			(101-102' from split spoon). SILT, very stiff (<1/4" penetration); olive brown (2.5 YR 4/3), moist, no odor, rapid dilatency, moderate toughness, low plasticity, low liquid limit, low dry strength.	
105							ML			
110		100		16:15	0.1	No Water Sample			SILTY CLAY, stiff to very stiff (~1/4" penetration), olive brown (2.5 YR 4/3), moist, occasional gray (organic) staining/marine-trace shell molds, moderate tough, high plasticity, no dilatency.	
115							CL			
120				17:00	0.3	No Water Sample			SILTY CLAY - Same as Above.	
125										

Well1: MW23B  
Well2: MW23C  
Well3: MW23D — #2/16 Sand  
Elev.: 149.35

3/4" Bentonite Chips  
2" Dia. Sch. PVC Blank

1:1 Bentonite Sand Mix

2" Dia. Sch. 80 PVC

2" Dia. Sch. 80 PVC


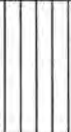



In greenbelt on the northeast side of Burke Street, just northwest of Beasor Road (near PPO34).  
Elevation noted is finished surface grade. B = Intermediate; C = Lower Intermediate; D = Deep

# LOG OF BORING MW23

(Page 6 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed : May 20, 2005  
Logged By : Ronald Halpern, PG  
Checked By : Ronald Halpern, PG  
Drilling Company : WDC  
Drill Rig : Faline Star SOK-CH ARCH/Mud  
OVA : MiniRae  
Driller : Mark Green  
Sampling Method : Core/Simulprobe  
Diameter : 9 3/4 inches  
Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
125							CL			Well1: MW23B Well2: MW23C Well3: MW23D Elev.: 149.35
130	X		OC2-PMW23 W-0-21	5/19/05 7:20	0.8		ML		Set Simulprobe 130-132 on 5/18/05. End drilling 5/18/05.  SILT with Clay, stiff, brittle, olive (5Y 4/4), moist, no odor.	1:1 Bentonite Sand Mix
135							SP		(Off cyclone). Poorly graded SAND, predominantly medium grained (80%) with fine (3-5%) and coarse (~15%) sand and trace silt, olive brown, saturated, no odor.	2" Dia. Sch. 80 PVC
140	X		OC2-PMW23 W-0-27	11:49	1.0		SW		(139' Off cyclone). Poorly graded SAND, same as above.  (141-142' Off split spoon). SAND, Well Graded, ~40% fine to medium-grained, ~60% coarse sand (max 5 mm) to fine gravel (12 mm), olive brown (2.5Y 4/3), saturated.	2" Dia. Sch. 80 PVC
145							SP		(Off split spoon). Poorly graded SAND, fine to medium-grained (max 1 mm diameter), olive brown.	Medium Chips
150										Sand #30
										Sand #2/16
										2" Dia. PVC Sch 80 (0.020" Slotted Screen)

In greenbelt on the northeast side of Burke Street, just northwest of Beasor Road (near PPO34).  
Elevation noted is finished surface grade. B = Intermediate; C = Lower Intermediate; D = Deep

# LOG OF BORING MW23

(Page 7 of 8)

Omega Chemical Operable Unit 2  
 Project No. CA000646.0001

Date Completed : May 20, 2005  
 Logged By : Ronald Halpern, PG  
 Checked By : Ronald Halpern, PG  
 Drilling Company : WDC  
 Drill Rig : Faline Star SOK-CH ARCH/Mud

OVA : MiniRae  
 Driller : Mark Green  
 Sampling Method : Core/Simulprobe  
 Diameter : 9 3/4 inches  
 Calibration Gas/Conc : 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
150	X		OC2-PMW23 W-0-29	12:52	0.7				(151-152' off split spoon). Poorly graded SAND with Silt, fine to medium grained.  Stopped drilling 5/20/05 152'. Resumed drilling 5/23/05 at 7:30 a.m.	Well1: MW23B Well2: MW23C Well3: MW23D Elev.: 149.35
155							SP-SM			
160	X		OC2-PMW23 W-0-32	5/20/05 8:45	0.4		GW		(160.5-161' from split spoon). Well graded GRAVEL, fine to coarse gravel (max 30 mm), subrounded, subangular, igneous.	#2/16 Sand
165	X						ML		(161-162' off split spoon). SILT, stiff, olive brown (2.5Y 4/3 to 4/4), moist, low toughness, rapid dilatency, low plasticity.	2" Dia. PVC Sch 80 (0.020" Slotted Screen)
165	X				0.7		ML-CL		(166-167' off split spoon). CLAYEY SILT, SILTY CLAY, hard, light olive brown (2.5 Y 5/4), moist, no odor, brittle, low to moderate plasticity, low to moderate toughness, slow to moderate dilatency.	2" Dia. Sch. 80 PVC
170	X		OC2-PMW23 W-0-34	13:40	0.6		GP		Poorly Graded GRAVEL, predominately fine, (4-10 mm diam), subangular to subrounded, igneous origin (quartz, orthoclase, mafic), saturated (possible sluff).	1:1 Bentonite Sand Mix
175							ML-CL		(171.5-172' off split spoon). CLAYEY SILT, SILTY CLAY, hard (<1/8" indentation), olive (5Y 4/4), moist to wet, no odor; Thin lamina (1-2 cm) gravelly clay, with fine to coarse gravel.	Sand #30
										#2/16 Sand

In greenbelt on the northeast side of Burke Street, just northwest of Beasor Road (near PPO34).  
 Elevation noted is finished surface grade. B = Intermediate; C = Lower Intermediate; D = Deep



# LOG OF BORING MW23

(Page 8 of 8)

Omega Chemical Operable Unit 2  
Project No. CA000646.0001

Date Completed	: May 20, 2005	OVA	: MiniRae
Logged By	: Ronald Halpern, PG	Driller	: Mark Green
Checked By	: Ronald Halpern, PG	Sampling Method	: Core/Simulprobe
Drilling Company	: WDC	Diameter	: 9 3/4 inches
Drill Rig	: Faline Star SOK-CH ARCH/Mud	Calibration Gas/Conc	: 100 ppm isobutylene

Depth in Feet	Samples	Blow Count	Lab No.	Time	OVA	Recovery %	USCS	GRAPHIC	DESCRIPTION	
175										Well1: MW23B Well2: MW23C Well3: MW23D Elev.: 149.35
180	X		OC2-PMW23 W-0-36	16:40	0.5		SP-SM		(180.5-182' off split spoon). Poorly graded SAND with Silt, ~5-10% silt, ~90-95% fine and medium-grained sand (max 1 mm diam), very dense, light yellowish brown (2.5Y 6/3), thin lamina (2-3") of predominantly fine gravel (<19 mm) some coarse (max 30 mm) subrounded, igneous origin from 180.5 to 180.75 ft bgs.	2" Dia. PVC Sch 80 (0.020" Slotted Screen) #2/16 Sand
185										
190	X		OC2-PMW23 W-0-39	17:20			GP		(191-191.5 off split spoon). Poorly graded GRAVEL with Sand, ~60-70% fine gravel (5 to 10 mm diam), 30-40% fine to coarse sand, ~3-5% silt, olive (5Y 4/4), very dense, saturated, no odor, possible slough.	2" Dia. Sch. PVC Blank
195							SP		(191.5-192' off split spoon). Poorly graded SAND, predominantly fine grained, (~80%), ~15% medium grained, 3-5% silt, olive brown, very dense, wet, no odor.	
195									Bottom of boring at 192'.	
200										

In greenbelt on the northeast side of Burke Street, just northwest of Beasor Road (near PPO34).  
Elevation noted is finished surface grade. B = Intermediate; C = Lower Intermediate; D = Deep



**CH2MHILL**

# Well Number: MW-24

Sheet: 1 of 4

**Client: U.S. EPA**

**Project: Omega Chemical OU-2**

**Location: Washington Blvd. & Lambert Dr., Whittier, CA**

**Project Number: 335392.FI.01**

**Driller: WDC**

**Drilling Method: Direct Mud Rotary**

**Sampling Method: Grab and Simulprobe**

**Logged by: J. Ockerman**

**Start/Finish Date: 5/25/07 to 6/1/07**

Depth (ft)	Sample Info		Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	Simulprobe				
0			Ground Surface	0		Hand auger to 5' bgs
5						
10	1015		<b>CLAYEY SAND (SC)</b> strong brown (7.5 YR 5/6), moist, 70% medium sand, 30% fines	10		Use 20" cookie cutter to advance boring to 20' bgs
15						
20	1050		<b>SILTY SAND (SM)</b> strong brown (7.5 YR 5/6), moist, 70% medium sand, 30% fines	20		5/25/07
25						5/29/07
30	0850		<b>POORLY GRADED SAND (SP)</b> brown (10 YR 4/3), medium sand	30		Remaining borehole advanced with mud rotary
35						
40	0910		<b>POORLY GRADED SAND (SP)</b> as above, medium to coarse sand	40		
45						
50	0925		<b>POORLY GRADED SAND (SP)</b> as above	50		No water in simulprobe
55			<b>POORLY GRADED GRAVEL (GP)</b> vari-colored, mottled appearance, subangular up to 20 mm	55		
60				60		



# Well Number: MW-24

Sheet: 2 of 4

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: Washington Blvd. & Lambert Dr., Whittier, CA

Project Number: 335392.FI.01

Driller: WDC

Drilling Method: Direct Mud Rotary

Sampling Method: Grab and Simulprobe

Logged by: J. Ockerman

Start/Finish Date: 5/25/07 to 6/1/07

Depth (ft)	Sample Info		Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	Simulprobe				
65	1330		<b>POORLY GRADED SAND (SP)</b> brown (10 YR 4/3), fine to medium sand			collect water sample from simulprobe
70	1615		<b>POORLY GRADED SAND WITH GRAVEL</b> 70% coarse sand, 20% subrounded gravel up to 40 mm, 10% fine to medium sand	70		5/29/07 5/30/07 no water in simulprobe
80	0945		<b>SANDY LEAN CLAY (CL)</b> dark grayish brown (10 YR 4/2), 85% fines, 15% fine sand, medium plasticity, soft	81		collect water sample from simulprobe
90	1200		<b>CLAYEY SAND WITH GRAVEL (SC)</b> brown (7.5 YR 4/4), 60% medium to coarse sand, 20% fines, 20% gravel up to 20 mm, subangular	90		no water in simulprobe
100	1415		<b>SILT WITH SAND (ML)</b> very dark grayish brown (10 YR 3/2), dry, 80% fines, 20% fine sand, low toughness, stiff	100		no water in simulprobe
110	1620		<b>POORLY GRADED SAND (SP)</b> dark yellowish brown (10 YR 4/4), 95% fine sand, 5% fines	110		no water in simulprobe
120				120		5/30/07

1:1 Granular bentonite and No. 3 sand mix

No. 3 sand

4" SCH 80 PVC SUMP

Med. Bentonite Chips

screen



**CH2MHILL****Well Number: MW-24**

Sheet: 3 of 4

**Client: U.S. EPA****Project: Omega Chemical OU-2****Location: Washington Blvd. & Lambert Dr., Whittier, CA****Project Number: 335392.FI.01****Driller: WDC****Drilling Method: Direct Mud Rotary****Sampling Method: Grab and Simulprobe****Logged by: J. Ockerman****Start/Finish Date: 5/25/07 to 6/1/07**

Depth (ft)	Sample Info		Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	Simulprobe				
125			<b>POORLY GRADED SAND (SP)</b> as above, olive brown (2.5 Y 4/3), 60% medium sand, 40% fine sand			5/31/07
130	1300		<b>POORLY GRADED SAND (SP)</b> as above	126		no water in simulprobe
135			<b>SANDY LEAN CLAY (CL)</b> dark yellowish brown (10 YR 4/4), 80% fines, 20% fine sand	130		
140	1515		<b>POORLY GRADED SAND (SP)</b> dark yellowish brown (10 YR 4/4), medium sand	140		collect water sample from simulprobe
145						
150	1730		<b>POORLY GRADED SAND (SP)</b> as above, gray (10 YR 5/1), dry, 80% medium sand, 20% fine sand	150		no water in simulprobe
155	0945		<b>POORLY GRADED SAND (SP)</b> brown (10 YR 5/3), 50% fine sand, 50% medium sand	155		5/31/07 6/1/07 collect water sample
160						
165	1200		<b>SILT WITH SAND (ML)</b> dark yellowish brown (10 YR 3/4), 80% fines, 20% fine sand	165		no water in simulprobe
170						
175	1245		<b>SANDY LEAN CLAY (CL)</b> dark yellowish brown (10 YR 4/4), 80% fines, 20% fine sand	175		
180						



**CH2MHILL**

# Well Number: MW-24

Sheet: 4 of 4

**Client: U.S. EPA**

**Project: Omega Chemical OU-2**

**Location: Washington Blvd. & Lambert Dr., Whittier, CA**

**Project Number: 335392.FI.01**

**Driller: WDC**

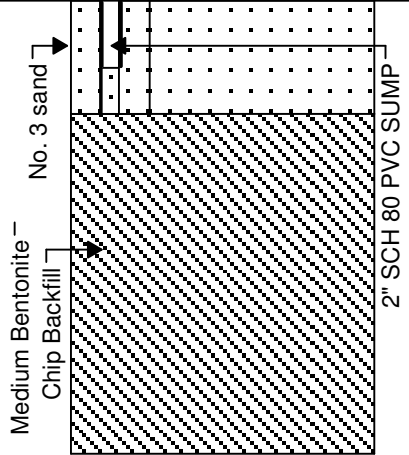
**Drilling Method: Direct Mud Rotary**

**Sampling Method: Grab and Simulprobe**

**Logged by: J. Ockerman**

**Start/Finish Date: 5/25/07 to 6/1/07**

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	Simulprobe					
185	1330						
190				<b>SANDY LEAN CLAY (CL)</b> as above	186		
195							
200	1415				200		
205				End of Log			
210							
215							
220							
225							
230							
235							
240							





**CH2MHILL**

# Well Number: MW-25

Sheet: 1 of 4

**Client: U.S. EPA**

**Project: Omega Chemical OU-2**

**Location: 901 Sorensen Ave. Santa Fe Springs, CA**

**Project Number: 335392.FI.01**

**Driller: WDC**

**Drilling Method: Direct Mud Rotary**

**Sampling Method: Grab**

**Logged by: D. Jablonski**

**Start/Finish Date: 2/28/07 to 3/6/07**

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
0	1315			Ground Surface	0		hand auger to 5 ft bgs
5		0.1		<b>SILT WITH SAND (ML)</b> dark yellowish brown (10YR 3/4), moist, 90% fines, 10% fine sand, low plasticity, no toughness or dry strength	5		
10	1340	0.6		<b>SILT WITH SAND (ML)</b> as above, slightly more clay	10		
15							
20	1352	0.0		<b>SILT WITH SAND (ML)</b> as above, low plasticity, low toughness, rapid dilatancy	20		
25							
30	1500			<b>POORLY GRADED SAND (SP)</b> light olive brown (2.5Y 5/3), wet, 90% fine to medium sand, 5% fines	30		
35							
40	1525			<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> light olive brown (2.5Y 5/4), 90% fine to medium sand, 10% fines, minor amounts of marly clay/silt with medium plasticity	40		
45							
50				<b>POORLY GRADED SAND (SP)</b> same as above	50		
55							
60					60		



**CH2MHILL****Well Number: MW-25**

Sheet: 2 of 4

**Client: U.S. EPA****Project: Omega Chemical OU-2****Location: 901 Sorensen Ave. Santa Fe Springs, CA****Project Number: 335392.FI.01****Driller: WDC****Drilling Method: Direct Mud Rotary****Sampling Method: Grab****Logged by: D. Jablonski****Start/Finish Date: 2/28/07 to 3/6/07**

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing				Drilling Comments
	Time	OVA								
65	1610	0.0		<b>SILTY SAND (SM)</b> light olive brown, (2.5Y 5/4), 75% fine to medium sand, 25% fines, trace of marly clay						
70	1630	0.0		<b>WELL GRADED SAND (SW)</b> light olive brown 2.5Y 5/3), 50% medium sand, 40% fine sand, 5% coarse sand, 5% fines, subrounded to subangular, clean, hard	70					
80	1645	0.0		<b>SILT WITH SAND (ML)</b> light olive brown (2.5Y 5/4), 75% fines, 25% fine sand, no plasticity, trace marly clay	80					
90	1705	0.0		<b>POORLY GRADED SAND (SP)</b> light olive brown (2.5Y 5/4), 95% fine sand, 5% fines, trace marly clay	90					
100	0735	0.0		<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> light olive brown, (2.5Y 5/3), 60% fine sand, 30% medium sand, 10% fines	100					
110	0800	0.0		<b>WELL GRADED SAND (SW)</b> light olive brown (2.5Y 5/3), 50% medium sand, 40% fine sand, 10% coarse sand, trace fines, clean sand, hard, subrounded to subangular grains	110					
120					120					



# Well Number: MW-25

Sheet: 3 of 4

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: 901 Sorensen Ave. Santa Fe Springs, CA

Project Number: 335392.FI.01

Driller: WDC

Drilling Method: Direct Mud Rotary

Sampling Method: Grab

Logged by: D. Jablonski

Start/Finish Date: 2/28/07 to 3/6/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
125	0820	0.0		<b>SILTY SAND (SM)</b> light olive brown (2.5Y 5/3), 70% fine sand, 30% fines			
130	0850	0.0		<b>SILTY SAND (SM)</b> as above, 60% fine sand, 40% fines	130		
135							
140	0920	0.0		<b>SILT WITH SAND (ML)</b> light olive brown (2.5Y 5/3), 90% fines, 10% fine sand, low plasticity, minor amounts marly clay with medium plasticity	140		
145							
150	0945	0.0		<b>SILT WITH SAND (ML)</b> as above	150		
155							
160	1010	0.0		<b>LEAN CLAY WITH SAND (CL)</b> light olive brown (2.5Y 5/4), 95% fines with low to medium plasticity, 5% fine sand, very soft, low toughness, marly clay present	160		
165							
170	1035	0.0		<b>LEAN CLAY WITH SAND (CL)</b> as above, slight increase in plasticity	170		
175							
180					180		



# Well Number: MW-25

Sheet: 4 of 4

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: 901 Sorensen Ave. Santa Fe Springs, CA

Project Number: 335392.FI.01

Driller: WDC

Drilling Method: Direct Mud Rotary

Sampling Method: Grab

Logged by: D. Jablonski

Start/Finish Date: 2/28/07 to 3/6/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
1150	0.1			<b>LEAN CLAY WITH SAND (CL)</b> as above, trace of marly clay, clay is stiff with medium plasticity, medium toughness			
185							
190	1220	0.1		<b>LEAN CLAY WITH SAND (CL)</b> as above, slight increase in yellowish brown clay	190		
195				<b>POORLY GRADED SAND (SP)</b> light olive brown (2.5YR 5/4), 95% fine to medium sand, 5 % fines, hard, subrounded, quartz, trace marly clay	195		
200							
205							
210	1305	0.2		<b>POORLY GRADED SAND (SP)</b> light olive brown (2.5Y 5/4), 95% fine to medium sand, 5% fines, subrounded to subangular, quartz, clean	210		
215	1330	0.4					
220				<b>SILT WITH SAND (ML)</b> light olive brown (2.5Y 5/4), 75% fines, 25% fine sand, no plasticity	220		
225							
230				End of Log	230		
235							
240							





# Well Number: MW-26

Sheet: 1 of 5

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: Bell Ranch Rd. Santa Fe Springs, CA

Project Number: 335392.FI.01

Driller: WDC

Drilling Method: Direct Mud Rotary

Sampling Method: Grab

Logged by: D. Jablonski

Start/Finish Date: 2/19/07 to 2/23/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
0	0805			Ground Surface	0		Hand auger to 5' bgs
5				<b>SILTY SAND (SM)</b> dark yellowish brown (10YR 3/4), moist, 60% fine sand, 40% fines			
10	0820			<b>SILT WITH SAND (ML)</b> yellowish brown (10YR 4/6), moist, 90% fines, 10% fine sand, low plasticity	10		
15				<b>SILT WITH SAND (ML)</b> as above	15		
20	0845			<b>SILTY SAND (SM)</b> yellowish brown (10YR 4/6), 80% fines, 20% fine sand, trace fine gravel, subrounded, granitic	20		2/19/07
25							2/20/07 Initiate mud drilling at 20' bgs
30	1120			<b>WELL GRADED SAND WITH SILT (SW-SM)</b> dark yellowish brown (10YR 4/6), 90% fine to coarse sand, 10% fines	30		
35							
40	1204			<b>POORLY GRADED SAND (SP)</b> olive brown (2.5Y 4/3), 95% fine grained sand, 5% fines	40		
45							
50	1220			<b>POORLY GRADED SAND (SP)</b> as above, color change to olive brown (2.5Y 4/4)	50		
55							
60					60		rig chatter



# Well Number: MW-26

Sheet: 2 of 5

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: Bell Ranch Rd. Santa Fe Springs, CA

Project Number: 335392.FI.01

Driller: WDC

Drilling Method: Direct Mud Rotary

Sampling Method: Grab

Logged by: D. Jablonski

Start/Finish Date: 2/19/07 to 2/23/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing				Drilling Comments
	Time	OVA								
65				<b>POORLY GRADED SAND (SP)</b> as above, 95% fine to medium grained sand, 5% fines						
70	1325			<b>POORLY GRADED SAND (SP)</b> as above	70					rig chatter
75										
80	1350			<b>POORLY GRADED SAND (SP)</b> as above	80					rig chatter
85										
90				<b>POORLY GRADED SAND (SP)</b> olive brown (2.5Y 4/4), 95% fine sand, 5% fine gravel, subrounded	90					
95										
100				<b>POORLY GRADED SAND WITH CLAY (SP-S)</b> olive brown (2.5Y 4/3), 70% fine sand, 20% fines, 10% silt, trace fine gravel (10mm), subrounded	100					
105										
110				<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> olive brown (10YR 4/4), 90% fine sand, 10% fines, trace fine gravel, subangular	110					
115										
120	1545				120					

**CH2MHILL****Well Number: MW-26**

Sheet: 3 of 5

**Client: U.S. EPA****Project: Omega Chemical OU-2****Location: Bell Ranch Rd. Santa Fe Springs, CA****Project Number: 335392.FI.01****Driller: WDC****Drilling Method: Direct Mud Rotary****Sampling Method: Grab****Logged by: D. Jablonski****Start/Finish Date: 2/19/07 to 2/23/07**

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing		Drilling Comments
	Time	OVA						
125				<b>POORLY GRADED SAND (SP)</b> olive brown (2.5YR 4/4), 95% medium sand, 5% fines				
130				<b>SILTY SAND (SM)</b> olive brown (2.5YR 4/3), 80% fine sand, 20% fines	130			
135								
140	1650			<b>LEAN CLAY WITH SAND (CL)</b> dark greenish gray (4/5GY), 90% fines, 10% fine sand, low plasticity, very soft, no dilatancy, salt and pepper appearance	137			no rig chatter
145								
150	0743			<b>SILTY SAND (SM)</b> olive (5Y 5/3), 60% fine sand, 40% fines, some greenish gray marly clay with low plasticity, and pepper appearance, very soft	150			2/20/07
155								2/21/07
160	0815			<b>SILTY SAND (SM)</b> olive (5Y 5/3), 70% fine sand, 30% fines, trace marly clay with low plasticity	160			no rig chatter
165								
170	0850			<b>SILTY SAND (SM)</b> as above, 80% fine sand, 20% fines	170			
175								
180					180			





# Well Number: MW-26

Sheet: 4 of 5

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: Bell Ranch Rd. Santa Fe Springs, CA

Project Number: 335392.FI.01

Driller: WDC

Drilling Method: Direct Mud Rotary

Sampling Method: Grab

Logged by: D. Jablonski

Start/Finish Date: 2/19/07 to 2/23/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing		Drilling Comments
	Time	OVA						
185	0930			<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> dark greenish gray (GLE Y1 4/10Y), 90% fine sand, 10% fines, trace dark greenish gray marly clay				
190	0955			<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> as above, 90% fine to medium sand, 10% fines	190			rig chattering
200	1020			<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> as above, fine sand	200			
210				<b>SILTY SAND (SM)</b> dark greenish gray (GLE Y1 4/5GY), 70% fine sand, 30% fines, dark greenish gray marly clay	210			strong rig chatter at 208 ft bgs
220	1125			<b>LEAN CLAY WITH SAND (CL)</b> dark greenish gray (GLE Y1 4/5GY), 60% fines, 40% fine sand, low plasticity, poorly graded sand, minor dark greenish gray marly clay, very soft, sticky	220			
230	0800			<b>LEAN CLAY WITH SAND (CL)</b> dark greenish gray (GLE Y1 4/5GY), 80% fines, 20% fine sand, low to medium plasticity, minor dark bluish gray marly clay, soft, sticky, trace fine gravel, 10-15 mm diameter, subrounded	230			2/21/07 2/22/07
240	0900				240			



**CH2MHILL**

## Well Number: MW-26

Sheet: 5 of 5

**Client:** U.S. EPA

**Project:** Omega Chemical OU-2

**Location:** Bell Ranch Rd. Santa Fe Springs, CA

**Project Number:** 335392.FI.01

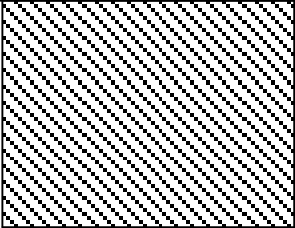
**Driller:** WDC

**Drilling Method:** Direct Mud Rotary

**Sampling Method:** Grab

**Logged by:** D. Jablonski

**Start/Finish Date:** 2/19/07 to 2/23/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
245				LEAN CLAY WITH SAND (CL) as above			
250	1015				250		
255				End of Log			
260							
265							
270							
275							
280							
285							
290							
295							
300							



# Well Number: MW27

Sheet: 1 of 4

**Client:** U.S. EPA

**Project:** Omega Chemical OU2

**Location:** Clark St. & Norwalk Blvd., Santa Fe Springs

**Project Number:** 335392.FI.01

**Driller:** WDC

**Drilling Method:** Mud rotary

**Sampling Method:** Grab

**Logged by:** D. Jablonski

**Start/Finish Date:** 4/9/07 to 4/16/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
0	1209			Ground Surface	0		hand auger to 5 bgs
5							
10	1243	0.1		<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> very dark greenish gray (5GY 3/1), moist, 90% fine sand, 10% fines, no odor or staining	10		drill with cookie cutter, no mud
15							
20	1445	0.0		<b>LEAN CLAY (CL)</b> olive gray (5Y 5/2), moist, low plasticity, soft, low toughness	20		drill with cookie cutter, add water, begin drilling with mud rotary
25							
30	0940	0.0		<b>POORLY GRADED SAND WITH CLAY (SP-SC)</b> light olive brown (2.5Y 5/4), 90% fine to medium sand, 10% fines (marly clay), clay yellowish brown (10YR 5/6), minor cemented sand, subangular	30		4/9/07
35							4/10/07
40	1000	0.0		<b>CLAYEY SAND (SC)</b> light olive brown (2.5Y 5/4), 60% fine to medium sand, 40% fines (marly clay), clay is strong brown (2.5YR 4/6)	40		
45							
50	1030	0.0		<b>CLAYEY SAND (SC)</b> light olive brown (2.5Y 5/4), 50% fine to medium sand, 40% clay, 10% fine gravel, subangular to subrounded, primarily quartz, clay is strong brown (2.5YR 4/6) with low plasticity	50		
55							
60					60		





# Well Number: MW27

Sheet: 2 of 4

Client: U.S. EPA

Project: Omega Chemical OU2

Location: Clark St. & Norwalk Blvd., Santa Fe Springs

Project Number: 335392.FI.01

Driller: WDC

Drilling Method: Mud rotary

Sampling Method: Grab

Logged by: D. Jablonski

Start/Finish Date: 4/9/07 to 4/16/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing				Drilling Comments
	Time	OVA								
1044	0.0			<b>POORLY GRADED SAND (SP)</b> greenish gray (GLE Y1 5/10Y), salt and pepper appearance, 95% fine sand, 5% fines with trace brown marly clay						
65										
70	0.0			<b>POORLY GRADED SAND (SP)</b> gray (2.5Y 5/1), 95% fine to medium sand, 5% fines, trace fine granitic gravel (granite, quartz, feldspar)	70					
75										
80	1205	0.0		<b>POORLY GRADED SAND (SP)</b> as above	80					
85										
90	1300	0.0		<b>POORLY GRADED SAND (SP)</b> as above	90					
95										
100	1325	0.0		<b>POORLY GRADED SAND (SP)</b> as above, medium sand	100					
105										
110	1345	0.0		<b>WELL GRADED SAND (SW)</b> gray (2.5Y 5/1) to light olive brown (2.5Y 5/3) to black (GLE Y1 2.5/N), 60% coarse sand, 30% medium sand, 10% fine sand, subangular to subrounded granitic clast (primarily quartz)	110					
115										
120					120					

Medium Bentonite - Chips

No. 2/12 sand

0.020" slot, 20 ft screen

4" SCH 80 PVC Sump

drilling slow and difficult



# Well Number: MW27

Sheet: 3 of 4

**Client:** U.S. EPA

**Project:** Omega Chemical OU2

**Location:** Clark St. & Norwalk Blvd., Santa Fe Springs

**Project Number:** 335392.FI.01

**Driller:** WDC

**Drilling Method:** Mud rotary

**Sampling Method:** Grab

**Logged by:** D. Jablonski

**Start/Finish Date:** 4/9/07 to 4/16/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing				Drilling Comments
	Time	OVA								
1404	0.0			<b>WELL GRADED SAND (SW)</b> pale yellow (2.5Y 8/1) to black (GLE Y1 2.5/N), 40% medium sand, 30% coarse sand, 30% fine sand, subangular to subrounded clast (feldspar, quartz, mafic minerals)		<p>1:1 Granular Bentonite and Sand Mix</p> <p>No. 2/12 sand</p> <p>Medium Bentonite Chips</p> <p>0.020" slot, 20 ft screen</p> <p>4" SCH 80 PVC Sump</p> <p>Medium Bentonite - Chips</p>				
125										
130	1440	0.0		<b>WELL GRADED SAND (SW)</b> dark greenish gray (GLE Y1 4/5GY), 40% fine sand, 40% medium sand, 15% coarse sand, 5% fine granitic gravel, clean, primarily quartz, feldspar and mafic minerals, angular to subrounded	130					
135										
140	1500	0.0		<b>WELL GRADED SAND WITH CLAY (SW-SC)</b> dark greenish gray (GLE Y1 4/5GY), 90% fine to coarse sand, 10% fines (marly clay) soft, granitic clast (quartz, feldspar, mafic minerals)	140					
145										
150	1530	0.0		<b>POORLY GRADED SAND (SP)</b> dark greenish gray (GLE Y1 4/5GY), 95% fine to medium sand, 5% fines, trace marly green clay	150					
155										
160	1550	0.0		<b>POORLY GRADED SAND (SP)</b> as above	160					
165										
170	0740	0.0		<b>POORLY GRADED SAND (SP)</b> as above, 95% fine to medium sand, 5% fines, trace of bluish green clay with low plasticity	170					4/10/07
175										4/11/07
180					180					



# Well Number: MW27

Sheet: 4 of 4

**Client:** U.S. EPA

**Project:** Omega Chemical OU2

**Location:** Clark St. & Norwalk Blvd., Santa Fe Springs

**Project Number:** 335392.FI.01

**Driller:** WDC

**Drilling Method:** Mud rotary

**Sampling Method:** Grab

**Logged by:** D. Jablonski

**Start/Finish Date:** 4/9/07 to 4/16/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
185	0815	0.0		<b>SILT (ML)</b> greenish gray (GLEY2 5/10BG), 90% fines, 10% fine to medium sand, trace coarse sand, no plasticity or toughness, very soft			
190	0845	0.0		<b>SANDY SILT (ML)</b> as above, 70% fines, 30% fine to medium sand, trace bluish green clay and coarse sand	190		
200	0855	0.0		<b>LEAN CLAY WITH SAND (CL)</b> greenish gray (GLEY2 5/10BG), 95% fines, 5% fine sand, low plasticity, low toughness, very soft	200		drilling hard at 203 ft bgs
210	0930	0.0		<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> greenish gray (GLEY2 5/5BG), 80% medium sand, 10% coarse sand, 10% fines, trace of bluish green clay with low plasticity, granitic clast	208		rig chatter
220	0945			<b>SILT WITH SAND (ML)</b> greenish gray (GLEY2 5/5 BG), 80% fines, 20% medium to coarse sand, no plasticity or toughness, very soft	220		drilling softer at 215 ft bgs
225	0955			End of Log	225		
230							
235							
240							



# Well Number: MW-28

Sheet: 1 of 3

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: Pioneer and Lakeland Blvd, Santa Fe Springs

Project Number: 335392.FI.01

Driller: Boart Longyear

Drilling Method: Rotosonic

Sampling Method: Continuous Core

Logged by: J. Ockerman

Start/Finish Date: 5/14/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
0				Ground Surface	0		
1130	0.0			<b>SILTY SAND (SM)</b> dark grayish brown (10 YR 4/2), dry, 70% fine sand, 30% fines	2		Hand auger to 5' bgs
5	1145	0.0					
10				<b>POORLY GRADED SAND (SP)</b> pale brown (10 YR 6/3), dry, 95% fine sand, 5% fines	8		
15							
20	1200	0.0		<b>POORLY GRADED SAND (SP)</b> as above	18		
25							
30	1220	0.0		<b>POORLY GRADED SAND (SP)</b> as above	26		
35				<b>POORLY GRADED SAND (SP)</b> as above, except with occasional gravel up to 40 mm, rounded	28		
35				<b>SANDY LEAN CLAY (CL)</b> brown (10 YR 4/3), moist, low plasticity	32		
35				<b>POORLY GRADED SAND (SP)</b> pale brown (10 YR 6/3), moist, occasional gravel up to 30 mm subrounded	34		
40	1330	0.0		<b>POORLY GRADED SAND (SP)</b> as above	38		
45				<b>SANDY LEAN CLAY (CL)</b> brown (10 YR 4/3), moist, medium stiffness	44		
50					48		
					50		





# Well Number: MW-28

Sheet: 2 of 3

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: Pioneer and Lakeland Blvd, Santa Fe Springs

Project Number: 335392.FI.01

Driller: Boart Longyear

Drilling Method: Rotosonic

Sampling Method: Continuous Core

Logged by: J. Ockerman

Start/Finish Date: 5/14/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
1400	0.0			<b>POORLY GRADED SAND (SP)</b> brown (10 YR 5/3), moist, 90% fine sand, 10% fines			
55				<b>POORLY GRADED SAND (SP)</b> as above	54		
				<b>SANDY LEAN CLAY (CL)</b> brown (10 YR 4/3), moist, 70% fines, 30% medium sand, medium stiffness	58		
60	1420	0.0		<b>CLAYEY SAND (SC)</b> brown (10 YR 4/3), moist, rounded gravel up to 50 mm			
65				<b>CLAYEY SAND (SC)</b> as above	66		
70	1455	0.0		<b>POORLY GRADE SAND (SP)</b> yellowish brown (10 YR 5/4), moist, fine sand	70		
75				<b>CLAYEY SAND (SC)</b> brown (10 YR 5/3), moist, 70% medium sand, 30% fines, low plasticity	76		
80	1455	0.0		<b>CLAYEY SAND (SC)</b> as above except wet	84		
85	1520	0.0		<b>POORLY GRADED SAND (SP)</b> brown (10 YR 5/3), wet, 90% medium sand, 10% gravel up to 10 mm, rounded	88		depth to water at 84' bgs
90	0810	0.0		<b>POORLY GRADED SAND (SP)</b> as above	96		5/14/07
95							5/15/07
100	0840				100		



CH2MHILL

## Well Number: MW-28

Sheet: 3 of 3

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: Pioneer and Lakeland Blvd, Santa Fe Springs

Project Number: 335392.FI.01

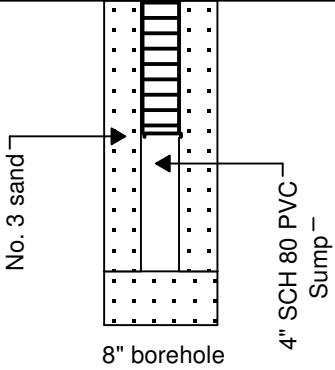
Driller: Boart Longyear

Drilling Method: Rotosonic

Sampling Method: Continuous Core

Logged by: J. Ockerman

Start/Finish Date: 5/14/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	OVA					
0910	0.0			<b>POORLY GRADED SAND (SP)</b> as above, except no gravel			
105							
110	1000	0.0		<b>POORLY GRADED SAND (SP)</b> as above	108		
				End of Log	110		
115							
120							
125							
130							
135							
140							
145							
150							



# Well Number: MW-29

Sheet: 1 of 3

**Client:** U.S. EPA

**Project:** Omega Chemical OU-2

**Location:** Gettysburg Dr. and Norwalk Blvd, Norwalk, CA

**Project Number:** 335392.FI.01

**Driller:** Boart Longyear

**Drilling Method:** Rotosonic

**Sampling Method:** Continuous Core

**Logged by:** J. Ockerman

**Start/Finish Date:** 5/31/07 to 6/1/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	PID (ppm)					
0				Ground Surface	0		Hand auger to 5' bgs
1.6				<b>SILT (ML)</b> light olive brown (2.5 Y 5/4), dry, roots present	3		
5	0944			<b>POORLY GRADED SAND (SP)</b> light yellowish brown (2.5 Y 6/3), moist, 60% fine sand, 40% medium sand	15		
10					18		
15				<b>SILT (ML)</b> dark yellowish brown (10 YR 4/6), moist, low plasticity, low toughness, 5% fine sand, weak cementation	20		
20	1033			<b>SILT (ML)</b> as above	22		
25				<b>SILTY SAND (SM)</b> dark yellowish brown (10 YR 4/6), moist	32		
30				<b>POORLY GRADED SAND (SP)</b> dark yellowish brown (10 YR 4/4), moist, 90% fine sand, 5% medium sand, 5% fines	37		
35				<b>SILTY SAND (SM)</b> light olive brown (2.5 Y 5/4), moist, 50% medium to coarse sand, 50% fines, fine to coarse gravel (55 mm maximum) present	47		
40	1115			<b>POORLY GRADED SAND WITH GRAVEL (SP)</b> light olive brown (2.5 Y 5/6), moist, 70% fine sand, 20% fine to coarse (5 mm to 30 mm), 10% medium sand	50		
45							
50	1130			<b>SILTY SAND (SM)</b> light olive brown (2.5Y 5/4), moist, soft			



# Well Number: MW-29

Sheet: 2 of 3

Client: U.S. EPA

Project: Omega Chemical OU-2

Location: Gettysburg Dr. and Norwalk Blvd, Norwalk, CA

Project Number: 335392.FI.01

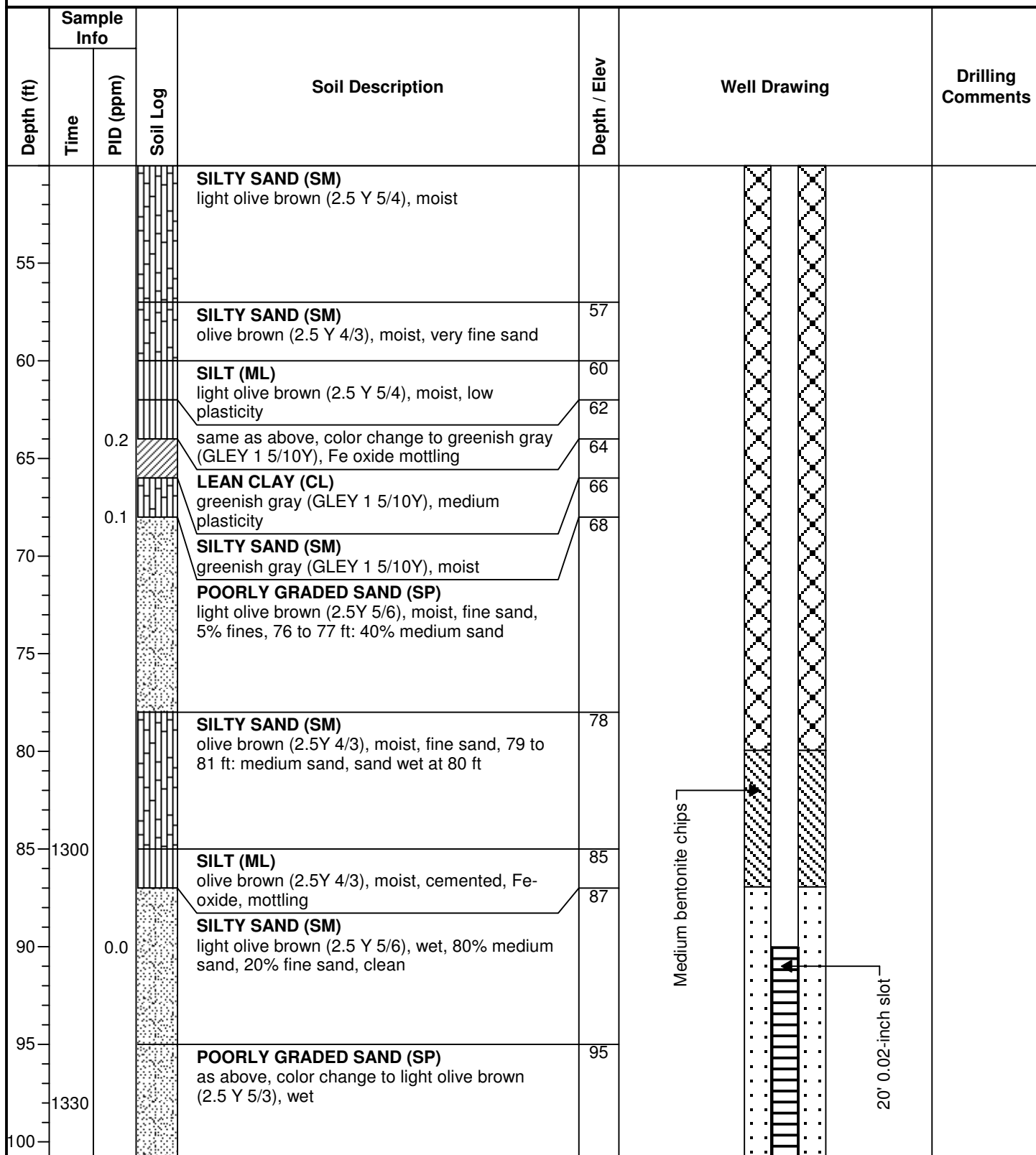
Driller: Boart Longyear

Drilling Method: Rotosonic

Sampling Method: Continuous Core

Logged by: J. Ockerman

Start/Finish Date: 5/31/07 to 6/1/07







**CH2MHILL**

# Well Number: MW-29

Sheet: 3 of 3

**Client:** U.S. EPA

**Project:** Omega Chemical OU-2

**Location:** Gettysburg Dr. and Norwalk Blvd, Norwalk, CA

**Project Number:** 335392.FI.01

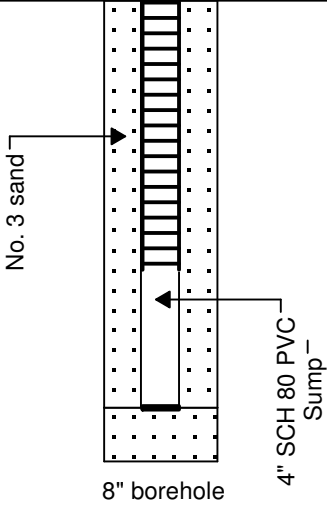
**Driller:** Boart Longyear

**Drilling Method:** Rotosonic

**Sampling Method:** Continuous Core

**Logged by:** J. Ockerman

**Start/Finish Date:** 5/31/07 to 6/1/07

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	PID (ppm)					
105	1400			<b>POORLY GRADED SAND (SP)</b> olive brown (2.5Y 4/3), moist, 95% fine sand, 5% fines	103 104 105		
110		0.0		<b>SILT (ML)</b> olive brown (2.5Y 4/3), moist, low plasticity, Fe-oxide mottles			
115				<b>POORLY GRADED SAND (SP)</b> same as above, olive brown (2.5 Y 4/3), 95% fine sand, 5% fines			
117				<b>SILTY SAND (SM)</b> yellowish brown (10 YR 5/6), moist, 10% fine sand	113		
120	1425	0.0		End of Log	117		
125							
130							
135							
140							
145							
150							

**CH2MHILL****Well Number: MW-30**

Sheet: 1 of 3

**Client: U.S. EPA****Project: Omega Chemical OU-2****Location: Civic Center Drive, Norwalk, CA****Project Number: 335392.FI.01****Driller: Boart Longyear****Drilling Method: Rotosonic****Sampling Method: Continuous Core****Logged by: J. Ockerman****Start/Finish Date: 6/11/07 to 6/12/07**

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	PID (ppm)					
0				Ground Surface	0		Hand auger to 5' bgs
		0.0		<b>SILTY SAND (SM)</b> dark reddish brown (5 YR 3/3), moist, 80% fine sand, 20% fines	2		
5							
		0.0		<b>POORLY GRADED SAND (SP)</b> brown (7.5 YR 4/4), moist, fine sand	8		
10	0900						
		0.0		<b>POORLY GRADED SAND WITH GRAVEL (SP)</b> as above, dark yellowish brown (10 YR 4/4), moist, 80% medium to coarse sand, 20% gravel (up to 10 mm)	18		
15							
		0.0		<b>CLAYEY SAND (SC)</b> olive brown (2.5 Y 4/4), 80% fine sand, 20% fines, low plasticity	24		
20	0930						
		0.0		<b>POORLY GRADED SAND (SP)</b> strong brown (7.5 YR 4/6), moist, medium sand	28		
25	0945						
30	0950						
		0.0		<b>POORLY GRADED SAND (SP)</b> olive gray (5Y 4/2), moist, fine to medium sand, salt and pepper appearance	38		
35							
		0.0		<b>LEAN CLAY (CL)</b> olive gray (5 Y 4/2), moist, low to medium plasticity, stiff	44		
40	1015						
		0.0					
45	1045						
		0.0					
50							



**CH2MHILL**

# Well Number: MW-30

Sheet: 2 of 3

**Client: U.S. EPA**

**Project: Omega Chemical OU-2**

**Location: Civic Center Drive, Norwalk, CA**

**Project Number: 335392.FI.01**

**Driller: Boart Longyear**

**Drilling Method: Rotosonic**

**Sampling Method: Continuous Core**

**Logged by: J. Ockerman**

**Start/Finish Date: 6/11/07 to 6/12/07**

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	PID (ppm)					
55	1105	0.0		<b>POORLY GRADED SAND (SP)</b> olive gray (5 Y 4/2), moist, fine sand	52		
60	1125	0.0		<b>POORLY GRADED SAND (SP)</b> as above, salt and pepper appearance	58		
65	1150	0.0		<b>POORLY GRADED SAND WITH CLAY (SP-SI)</b> greenish gray (GLE Y 1 5/1 10GY), moist, 90% fine sand, 10% fines	64		
70	1200	0.0		<b>POORLY GRADED SAND (SP)</b> olive brown (2.5Y 4/3), moist, fine sand	68		
80	1345	0.0		<b>POORLY GRADED SAND (SP)</b> olive brown (2.5 Y 4/4), moist, 95% fine sand, 5% fines	78		
90	1455	0.0		<b>POORLY GRADED SAND (SP)</b> light olive brown (2.5 Y 5/4), moist, medium sand	88		
95							
100							

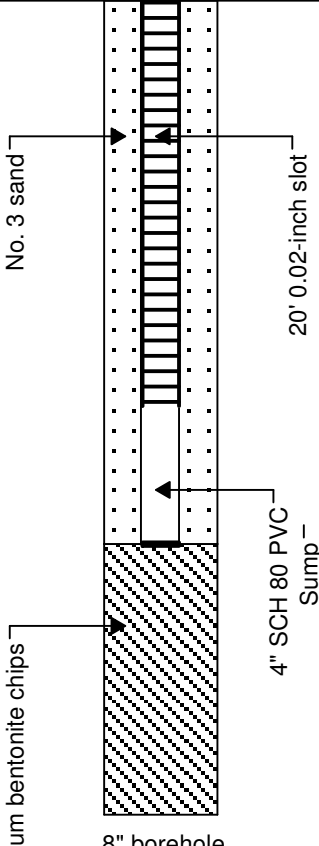
Medium bentonite chips

DTW at 92.5' bgs

**CH2MHILL****Well Number: MW-30**

Sheet: 3 of 3

**Client: U.S. EPA****Project: Omega Chemical OU-2****Location: Civic Center Drive, Norwalk, CA****Project Number: 335392.FI.01****Driller: Boart Longyear****Drilling Method: Rotosonic****Sampling Method: Continuous Core****Logged by: J. Ockerman****Start/Finish Date: 6/11/07 to 6/12/07**

Depth (ft)	Sample Info		Soil Log	Soil Description	Depth / Elev	Well Drawing	Drilling Comments
	Time	PID (ppm)					
105				<b>POORLY GRADED SAND (SP)</b> very dark greenish gray (GLE Y2 3/1 5BG), moist, fine sand		 <p>No. 3 sand</p> <p>20' 0.02-inch slot</p> <p>4" SCH 80 PVC Sump</p> <p>8" borehole</p> <p>Backfill with medium bentonite chips</p>	120 to 130 ft: strong hydrocarbon odor
110	1620	0.0		<b>POORLY GRADED SAND (SP)</b> as above	108		
115	1700	0.0		<b>POORLY GRADED SAND (SP)</b> as above, except medium sand	114		
120	0830	2.0		<b>POORLY GRADED SAND (SP)</b> very dark greenish gray (GLE Y2 3/1 5BG), wet, fine sand	118		
130	0900	3.8		<b>POORLY GRADED SAND WITH SILT (SP-SM)</b> dark greenish gray (GLE Y2 4/1 10BG), wet, 90% fine sand, 10% fines	128		
				End of Log	130		
135							
140							
145							
150							



# MONITORING WELL: OW-1

PROJECT NAME: Omega

PROJECT NUMBER: 445.2

DATE DRILLED: 6/4/96

SURFACE ELEVATION: 207.9 feet msl

LOCATION: See Figure 1.

BOREHOLE DIA.: 6.5-inch, reamed to 10"

TOTAL DEPTH OF BORING: 80 feet bls

DRILLING COMPANY: Gregg Drilling

METHOD: Hollow Stem Auger

DRILLER'S NAME: C. Winegarner

DRILL RIG: Mobile Drill B-61

LOGGED BY: G. Cranham (R.G.# 5897)

CHECKED BY: M. Palmer (R.G.# 5915)

COMMENTS: Sampler: 2.5 foot continuous core sampler & 1 1/2-inch SPT sampler.

Weather: Hazy sunshine, wind 0-5 mph from east, 70° F.

## WELL DETAILS

DATE WELL INSTALLED: 6/4/96

COVER: Above-ground locking steel vault

SCREEN: 4-inch ID, 0.020-inch, stainless steel wire-wrap well screen.

WATER LEVEL: 67.6 feet bls. (6/5/96)

SCREEN INTERVAL: 62.5 to 77.5 feet bls

CASING: 4-inch ID, flush threaded, schedule 40 PVC blank well casing.

CASING INTERVAL: 0 to 62.5 feet bls

DNAPL SUMP: 4-inch ID, flush threaded, stainless steel well casing

DNAPL SUMP CASING INTERVAL: 77.5 to 80 feet bls

FILTER PACK MATERIAL: No. 2/12 Monterey Sand

FILTER PACK INTERVAL: 59 to 77.5 feet bls

SEAL: Concrete 0 to 3.5 feet bls

COMMENTS Filter pack separated from cement seal surrounding DNAPL sump by canvas cementing basket.

Neat Portland Cement 3.5 to 56.2 feet bls

Medium Bentonite tablets 56.2 to 59 feet bls

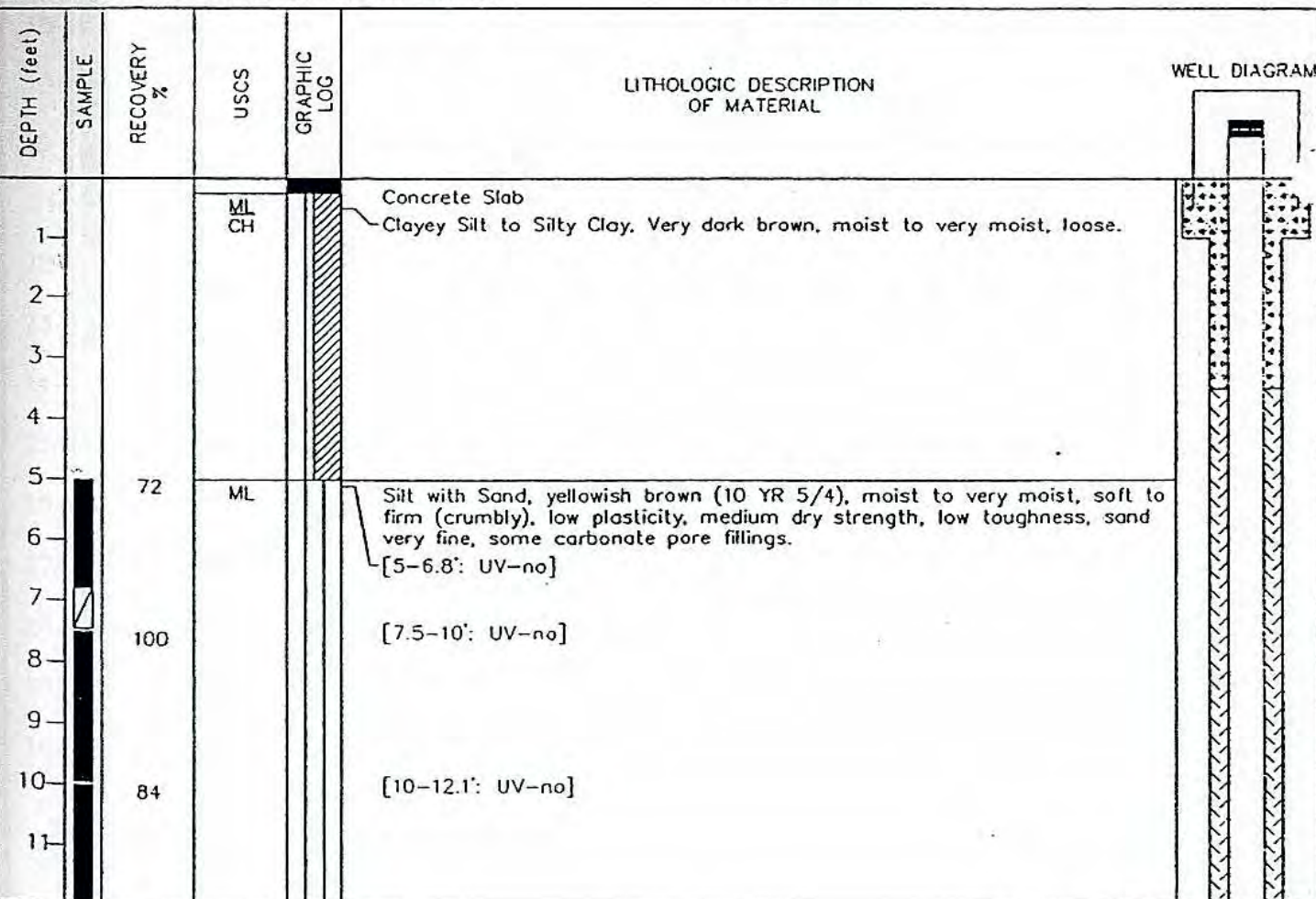


FIGURE B-3. LITHOLOGIC LOG FOR MONITORING WELL OW-1

RPT NO.

SHEET 1 OF 5



PROJECT NAME: Omega

PROJECT NUMBER: 445.2

DATE DRILLED: 6/4/96

## MONITORING WELL: OW-1

DEPTH (feet)	SAMPLE	RECOVERY %	USCS	GRAPHIC LOG	LITHOLOGIC DESCRIPTION OF MATERIAL	WELL DIAGRAM
13		100	ML		[12.5-15': UV-no]	
14					Root casts or soil pores common at 14 to 15 feet.	
15		84			Very moist at approximately 15 feet.	
16					[15-17.1': UV-no; Dye-no reaction]	
17		100			Granitic pebble at 15.7 feet	
18					[17.5-20': UV-no]	
19						
20		92			[20-22.3': UV-no; Dye-no reaction]	
21						
22						
23		36			[22.5-23.4: UV-no]	
24						
25		0				
26						
27						
28		8				
29					(Clay ball in auger bit may have interfered with recovery.)	
30		88			Increased clay content at 30.1 to 30.4 feet.	
31			CH			
32		72			Clay, brown (10 YR 4/3), moist, very stiff, medium to high plasticity, medium toughness, high dry strength; trace silt, trace sand, occasional pebbles	
					[31.5-32.5: UV-no; Dye-no reaction]	
					[32.5-34.3': UV-no]	

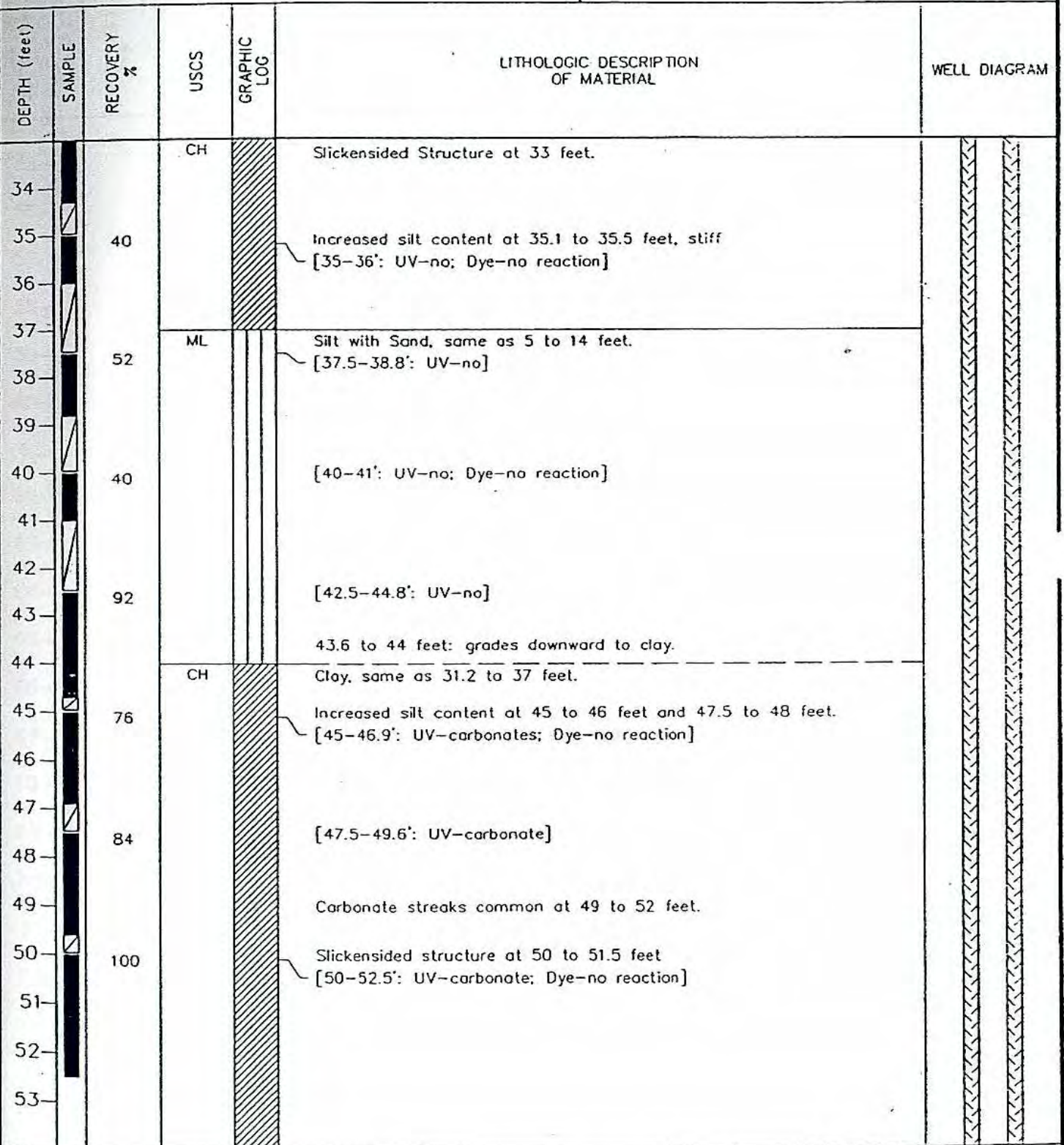
RPT NO.

SHEET 2 OF 5

FIGURE B-3. LITHOLOGIC LOG FOR  
MONITORING WELL OW-1

PROJECT NAME: Omega  
 PROJECT NUMBER: 445.2  
 DATE DRILLED: 6/4/96

# MONITORING WELL: OW-1



RPT NO.

SHEET 3 OF 5

FIGURE B-3. LITHOLOGIC LOG FOR  
 MONITORING WELL OW-1



PROJECT NAME: Omega  
 PROJECT NUMBER: 445.2  
 DATE DRILLED: 6/4/96

# MONITORING WELL: OW-1

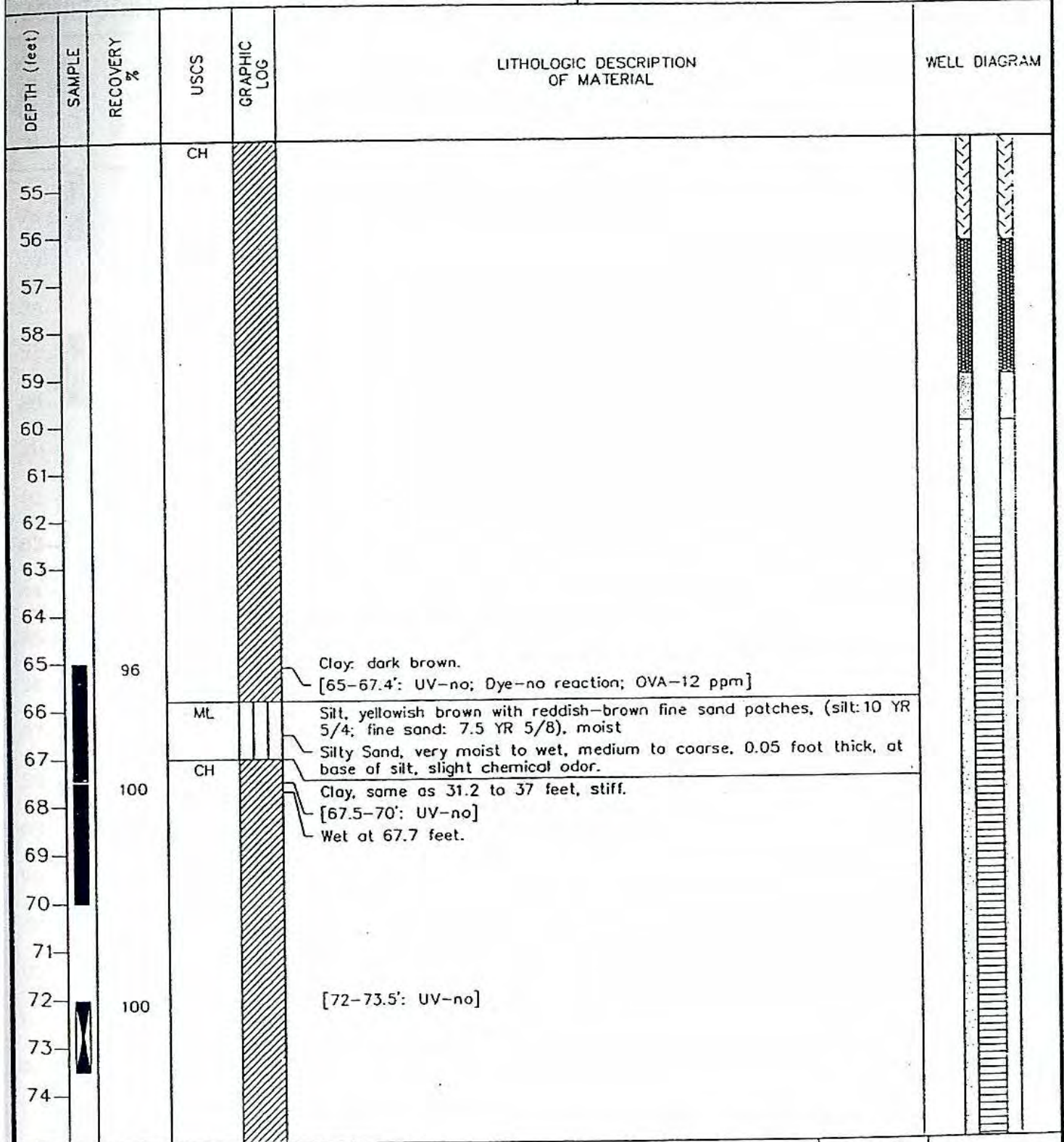


FIGURE B-3. LITHOLOGIC LOG FOR  
 MONITORING WELL OW-1

RPT NO.

SHEET 4 OF 5



PROJECT NAME: Omega  
 PROJECT NUMBER: 445.2  
 DATE DRILLED: 6/4/96

MONITORING WELL: OW-1



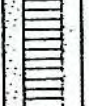



DEPTH (feet)	SAMPLE	RECOVERY %	USCS	GRAPHIC LOG	LITHOLOGIC DESCRIPTION OF MATERIAL	WELL DIAGRAM
76		100	CH		Carbonate steaks common at 75 to 79.5 feet, Carbonate layer at 75.5 to 75.6 feet. Increased silt content below 75 feet, firm to stiff. [75-76.5': UV-carbonate]	
77						
78						
79		100			[78.5-80': UV-no] Granitic pebble at 78.7 feet	
80						
81					TOTAL DEPTH OF BORING = 80 FEET BELOW LAND SURFACE	
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						

FIGURE B-3. LITHOLOGIC LOG FOR  
 MONITORING WELL OW-1

RPT NO.

SHEET 5 OF 5





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD

PROJECT NAME Omega Chemical

LOCATION 12504 East Whittier Blvd, Whittier, CA

DRILLING METHOD Hollow Stem Auger

SAMPLING METHOD Modified CA Split Spoon

GROUND ELEVATION

TOP OF CASING

LOGGED BY Mike Hoffman

REMARKS

BORING/WELL NUMBER OW-1b

DATE DRILLED 6/16/99-6/18/99

CASING TYPE/DIAMETER 4" Sch 40, MS Blank

SCREEN TYPE/SLOT 4" SS, 20-slot

GRAVEL PACK TYPE Lonestar #2/12

GROUT TYPE/QUANTITY Portland Cement/5% Bentonite/495 gal

DEPTH TO WATER 59.00

GROUND WATER ELEVATION

PID (ppm)	BLOW COUNTS	RECOVERY (Inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0								CONCRETE is 4 inches thick. SILTY CLAY: brown (10YR4/3); low plasticity, soft, no UV illumination, dry to moist, no odor.	0.3	
0.0	4.69	18			5	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, no UV illumination, dry to moist, no odor.	5.0	
0.0		18	OC-SG OW1b -10- 061699	SG	10	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, UV illuminated small fragments, dry to moist, no odor.	10.0	Cement-Bentonite Grout (0-96 ft bgs).
9.4	5.914	18			15	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft; trace pebbles to 1/2" diameter; UV illuminated small fragments and streaks, dry to moist, no odor.	15.0	
0.0		18	OC-SG OW1b -20- 061699	SG	20	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft; trace pebbles to 1/2" diameter; no UV illumination, dry to moist, no odor.	20.0	
9.4	9.1620	18			25	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, no UV illumination, dry to moist, no odor.	25.0	4" Sch 40, MS Blank (0-110 ft bgs).
9.4		18	OC-SG OW1b -30- 061699	SG	30	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, no UV illumination, dry to moist, no odor.	30.0	
					35				35.0	

Continued Next Page



## BORING/WELL CONSTRUCTION LOG









PROJECT NUMBER 10500-24699-T4.FIELD

BORING/WELL NUMBER OW-1b

PROJECT NAME Omega Chemical

DATE DRILLED 6/16/99-6/18/99

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (Inches)	SAMPLE ID	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
75.2	10 18 22	18	OC-S-OW1b-35-061699	XX	-	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, no UV illumination, dry to moist, no odor.		
18.8		18	OC-SG-OW1b-40-061699	SG	40	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, UV illuminated small fragments, dry to moist, no odor.	40.0	
47.0	12 17 25	18	OC-S-OW1b-45-061699	XX	45	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, UV illuminated small fragments, dry to moist, no odor.	45.0	Cement-Bentonite Grout (0-96 ft bgs).
23.5		18	OC-SG-OW1b-50-061699	SG	50	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, UV illuminated small fragments, dry to moist, no odor.	50.0	
84.7	15 22 27	18	OC-S-OW1b-55-061699	XX	55	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, UV illuminated small streaks, dry to moist, no odor.	55.0	
211.7		18	OC-SG-OW1b-60-061699	SG	60	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, UV illuminated precipitate, dry to moist, moderate to strong hydrocarbon odor.	60.0	
122.3	7 18 24	18	OC-S-OW1b-65-061699	XX	65	CL		SILTY CLAY: dark yellowish brown (10YR4/4); low plasticity, soft, UV illuminated precipitate and fragments, dry to moist, moderate to strong hydrocarbon odor.	65.0	4", Sch 40, MS Blank (0-110 ft bgs).
28.2	15 20 22	18	OC-S-OW1b-70-061699	XX	70	CL		SILTY CLAY: brown (10YR4/3); low plasticity, stiff, UV illuminated fragments and streaks, dry to moist, no odor.	70.0	
					75				75.0	

Continued Next Page





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD

BORING/WELL NUMBER OW-1b

PROJECT NAME Omega Chemical

DATE DRILLED 6/16/99-6/18/99

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (Inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
21.5	14 28 30	18	OC-S-OW1b-75-061699			CL		SILTY CLAY: brown (10YR4/3); low plasticity, stiff, UV illuminated fragments and streaks, dry to moist, no odor.		
21.5	12 28 31	18	OC-S-OW1b-80-061699		80	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, UV illuminated streaks, dry to moist, no odor.	80.0	Cement-Bentonite Grout (0-96 ft bgs).
4.7	10 11 13	18			85	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, UV illuminated streaks, dry to moist, no odor.	85.0	
28.2	11 14 20	18	OC-S-OW1b-90-061699		90	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft, no UV illumination, dry to moist, no odor.	90.0	4", Sch 40, MS Blank (0-110 ft bgs).
0.0	3 4 4	18			95	CL		SILTY CLAY: brown (10YR4/3); low plasticity, stiff, no UV illumination, dry to moist, no odor.	95.0	
0.0	3 4 6	18	OC-S-OW1b-100-061899		100	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft to firm; traces of coarse sand to fine gravel; no UV illumination, dry to moist, no odor.	100.0	Bentonite Pellets (96-99 ft bgs).
0.0	3 3 6	18			105	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft to firm; traces of coarse sand to fine gravel; no UV illumination, dry to moist, no odor.	105.0	Lonestar #2/12 Filter Pack (99-130 ft bgs).
0.0	5 5 9	18	OC-S-OW1b-110-061899		110	CL		SILTY CLAY: brown (10YR4/3); low plasticity, firm, no UV illumination, dry to moist, no odor.	110.0	4", SS, 20-slot, Screen (110-120 ft bgs).
					115				115.0	

Continued Next Page





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD

BORING/WELL NUMBER OW-1b

PROJECT NAME Omega Chemical

DATE DRILLED 6/16/99-6/18/99

Continued from Previous Page

BLOW COUNTS	RECOVERY (Inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
10 14 17	18				CL		SILTY CLAY: brown (10YR4/3); low plasticity, firm, no UV illumination, dry to moist, no odor.		
4 8 12	18	OC-S-OW1b-120-061899		120	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft to firm; traces of coarse sand to fine gravel; no UV illumination, dry to moist, no odor.	120.0	4", SS, 20-slot, Screen (110-120 ft bgs).
8 18 24	18			125	CL		SILTY CLAY WITH GRAVEL: brown (10YR4/3); 85% silty clay, low plasticity, soft; 15% gravel in matrix, up to 1/2" diameter, angular to subrounded, low to moderate sphericity; no UV illumination, moist, no odor.	125.0	Lonestar #2/12 Filter Pack (99-130 ft bgs).
6 8 14	18			130	CL		SILTY CLAY: brown (10YR4/3); low plasticity, soft to firm; traces of coarse sand to fine gravel; no UV illumination, dry to moist, no odor.	130.0 131.5	TD = 130 ft bgs.





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD BORING/WELL NUMBER OW-2  
PROJECT NAME Omega Chemical DATE DRILLED 6/17/99  
LOCATION 12504 East Whittier Blvd, Whittier, CA CASING TYPE/DIAMETER 4" Sch 40, MS Blank  
DRILLING METHOD Hollow Stem Auger SCREEN TYPE/SLOT 4" SS, 20-slot  
SAMPLING METHOD Modified CA Split Spoon GRAVEL PACK TYPE Lonestar #2/12  
GROUND ELEVATION \_\_\_\_\_ GROUT TYPE/QUANTITY Portland Cement/5% Bentonite/205 gal  
TOP OF CASING \_\_\_\_\_ DEPTH TO WATER \_\_\_\_\_  
LOGGED BY Mike Hoffman GROUND WATER ELEVATION \_\_\_\_\_  
REMARKS \_\_\_\_\_

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0								CONCRETE is 3 inches thick. SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, stiff, soft, moist, no odor.	0.3	
0.0	5 9 10	18			5	CL		SILTY CLAY: dark brown (10YR3/3); 100% silty clay, low plasticity, soft, moist, no odor.	5.0	
0.0	5 5 14	18			10	CL		SILTY CLAY: dark brown (10YR3/3); 100% silty clay, low plasticity, soft, moist, no odor.	10.0	Cement-Bentonite Grout (0-50 ft bgs).
0.0	10 13 15	18			15	CL		SILTY CLAY: dark brown (10YR3/3); 100% silty clay, low plasticity, soft, moist, no odor.	15.0	
0.0	6 8 19	18			20	CL		SILTY CLAY: dark brown (10YR3/3); 100% silty clay, low plasticity, soft, moist, no odor.	20.0	
0.0	13 15 21	18			25	CL		SILTY CLAY: dark brown (10YR3/3); 100% silty clay, low plasticity, soft, moist, no odor.	25.0	4" Sch 40, MS Blank (0-60 ft bgs).
10.6	NA	18			30	CL		SILTY CLAY: dark brown (10YR3/3); 100% silty clay, low plasticity, soft, moist, no odor.	30.0	
					35	CL			35.0	

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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD

BORING/WELL NUMBER OW-2

PROJECT NAME Omega Chemical

DATE DRILLED 6/17/99

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
16.5	8 12 19	18				CL		SILTY CLAY: dark brown (10YR4/3); 100% silty clay, low plasticity; trace coarse sand to 1/4" diameter gravel; firm, moist, no odor.		
16.5	15 19 22	18			40	CL		SILTY CLAY: dark brown (10YR3/3); 100% silty clay, low plasticity, soft, moist, no odor.	40.0	
49.3	16 23 29	18	OC-S-OW2-45-061799		45	CL		SILTY CLAY: dark brown (10YR4/3); 100% silty clay, low plasticity; trace coarse sand to 1/4" diameter gravel; firm, moist, no odor.	45.0	Cement-Bentonite Grout (0-50 ft bgs).
32.9	8 17 20	18			50	CL		SILTY CLAY: dark brown (10YR4/3); 100% silty clay, low plasticity; trace coarse sand to 1/4" diameter gravel; firm, moist, no odor.	50.0	4", Sch 40, MS Blank (0-60 ft bgs).
0.0	9 14 20	18			55	ML		SILT WITH SAND: brown (10YR4/3); 85% silt, loose, soft, slightly cohesive; 15% very fine sand; slightly moist, no odor.	55.0	Bentonite Pellets (50-55 ft bgs).
27.4	7 7 20	18	OC-S-OW2-60-061799		60	SP SM		POORLY GRADED SAND WITH SILT: brown (10YR4/3); 90% sand, very fine to fine; 10% silt in matrix; slightly moist, no odor.	60.0	Lonestar #2/12 Filter Pack (55-85 ft bgs).
21.9	10 14 22	18			65	SP SM		POORLY GRADED SAND WITH SILT: gray (10YR5/1); 95% sand, very fine to fine; 5% silt in matrix; very moist, slightly cohesive, no odor.	65.0	
0.0	10 10 17	18			70	SP SM		POORLY GRADED SAND WITH SILT: gray (10YR5/1); 95% sand, very fine to fine; 5% silt in matrix; very moist, slightly cohesive, no odor.	70.0	4", SS, 20-slot, Screen (60-80 ft bgs).
					75				75.0	

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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD

BORING/WELL NUMBER OW-2

PROJECT NAME Omega Chemical

DATE DRILLED 6/17/99

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (Inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0	13 21 30	18				CL		SILTY CLAY: dark grayish brown (10YR4/2); 100% silty clay, low plasticity, soft, moist, no odor.		
0.0	12 18 24	18	OC-S-OW2-80-061799		80	SC		CLAYEY SAND: brown (10YR4/3); 80% sand, very fine to fine; 20% clay in matrix and as balls, moderate plasticity; saturated, no odor.	80.0	
0.0	NA	18			85	CL		SILTY CLAY: dark grayish brown (10YR4/2); 100% silty clay, low plasticity, soft, moist, no odor.	85.0 86.5	4", SS, 20-slot, Screen (60-80 ft bgs).  Lonestar #2/12 Filter Pack (55-85 ft bgs).  TD = 85 ft bgs.





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD BORING/WELL NUMBER OW-3  
PROJECT NAME Omega Chemical DATE DRILLED 6/15/99  
LOCATION 12504 East Whittier Blvd, Whittier, CA CASING TYPE/DIAMETER 4" Sch 40, MS Blank  
DRILLING METHOD Hollow Stem Auger SCREEN TYPE/SLOT 4" SS, 20-slot  
SAMPLING METHOD Modified CA Split Spoon GRAVEL PACK TYPE Lonestar #2/12  
GROUND ELEVATION \_\_\_\_\_ GROUT TYPE/QUANTITY Portland Cement/5% Bentonite/210 gal  
TOP OF CASING \_\_\_\_\_ DEPTH TO WATER 59.00  
LOGGED BY Mike Hoffman GROUND WATER ELEVATION \_\_\_\_\_  
REMARKS \_\_\_\_\_

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0								CONCRETE is 3 inches thick. SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, soft, moist, no odor.	0.3	
0.0	3 3 4	18			5	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, soft, moist, no odor.	5.0	
0.0	4 6 10	18			10	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, soft, moist, no odor.	10.0	
0.0	5 5 14	18			15	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, stiff, moist, no odor.	15.0	
0.0	5 7 13	18			20	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, stiff, moist, no odor.	20.0	
0.0	10 12 17	18			25	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, soft, moist, no odor.	25.0	
0.0	8 12 16	18			30	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, stiff, moist, no odor.	30.0	
					35				35.0	

Cement-Bentonite Grout (0-53 ft bgs).

4", Sch 40, MS Blank (0-63 ft bgs).

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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD

BORING/WELL NUMBER OW-3

PROJECT NAME Omega Chemical

DATE DRILLED 6/15/99

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0	10 13 20	18				CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, stiff, moist, no odor.		
13.3	10 13 19	18	OC-S-OW3-45-061599		40	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, stiff, moist, no odor.	40.0	
0.0	12 16 22	18			45	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, stiff, moist, no odor.	45.0	4", Sch 40, MS Blank (0-63 ft bgs).
0.0	14 19 29	18	OC-S-OW3-50-061599		50	SW		WELL GRADED SAND: dark yellowish brown (10YR3/4); 95% sand, very fine to very coarse, angular to rounded, low to high sphericity; 5% gravel to 1/4" diameter, angular to subrounded, low to moderate sphericity; trace silt in matrix; moist, no odor.	50.0	
0.0	22 28 31	18			55	SW		NO RECOVERY: assuming sand and gravel.	55.0	Bentonite Pellets (53-58 ft bgs).
0.0	21 28 31	18			60	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, soft, moist, no odor.	60.0	Lonestar #2/12 Filter Pack (58-85 ft bgs).
0.0	17 25 40	18			65	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, soft, moist, no odor.	65.0	
0.0	12 17 23	18			70	GC		CLAYEY GRAVEL: brown (10YR4/3); 60% gravel, angular to subrounded, low to moderate sphericity; 35% silty clay, low plasticity; 5% well graded sand, very fine to coarse; moist, no odor.	70.0	4", SS, 20-slot, Screen (63-83 ft bgs).
					75				75.0	

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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-24699-T4.FIELD

BORING/WELL NUMBER OW-3

PROJECT NAME Omega Chemical

DATE DRILLED 6/15/99

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0	8 18 20	18	OC-S- OW3 -75- 061599			CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, soft; trace gravel; moist, no odor.		
0.0	5 9 14	18			80	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, soft; trace gravel; moist, no odor.	80.0	
0.0	10 31 21	18			85	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, low plasticity, stiff; trace gravel; moist, no odor.	85.0 86.5	



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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-37240-T1.GW-OW3B

BORING/WELL NUMBER OW-3B

PROJECT NAME Omega Chemical

DATE DRILLED 3/6/06

LOCATION 12511 Putnam St, Whittier, CA

CASING TYPE/DIAMETER Sch 40, PVC / 4"

DRILLING METHOD Mud Rotary

SCREEN TYPE/SLOT 4" Stainless Steel Wire Wrap / 0.010"

SAMPLING METHOD Mud Rotary Cuttings

GRAVEL PACK TYPE Monterey #2/12

GROUND SURFACE ELEVATION (FT MSL) 195.57

GROUT TYPE/QUANTITY Portland Cement/5% Bentonite

TOP OF CASING ELEVATION (FT MSL) 195.14

STATIC WATER LEVEL (FT BELOW TOC) 73.76

LOGGED BY W.F. Grove

GROUND WATER ELEVATION (FT MSL) 121.38

REMARKS The lithology was based on geophysical log and cuttings to the total depth of 139'.

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0								Concrete is 7" thick Roadbase SILT: brown (7.5 YR 4/4); silt, moist, low density, nonplastic, no odor	0.6 1.0	Concrete from the surface to 2 feet bgs
0					5	ML				
0					10			CLAY: brown, (7.5 YR 4/2); low density, low plasticity.	10.0	12" x 3/8" mild steel conductor casing
0					15	CL				4" sch 40 pvc, blank casing
					20			CLAY: brown, (7.5 YR 4/2); low density, low plasticity.	19.0	Portland cement w/ 5% bentonite gel grout
0					25	CL				
					30			CLAY: brown, (7.5 YR 4/2); low density, low plasticity.	29.0	
0					35	CL		CLAY: brown, (7.5 YR 4/2); low density, low plasticity.		

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## BORING/WELL CONSTRUCTION LOG









PROJECT NUMBER 10500-37240-T1.GW-OW3B

BORING/WELL NUMBER OW-3B

PROJECT NAME Omega Chemical

DATE DRILLED 3/6/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0					40	CL		CLAY: brown, (7.5 YR 4/2); low density, low plasticity.	39.0	
					45	CL		CLAY: brown, (7.5 YR 4/2); low density, low plasticity.		
0				G	50	SP		SAND: light brown, (7.5 YR 6/4); poorly graded, fine to medium grained, subangular to subrounded.	48.0	
					55	SP		SAND: light brown, (7.5 YR 6/4); poorly graded, fine to medium grained, subangular to subrounded.	54.0	
0					60	SP		SAND: light brown, (7.5 YR 6/4); poorly graded, fine to medium grained, subangular to subrounded.		
					65	CL		CLAY: yellowish brown, (10 YR 5/4); 90% clay, medium density, low plasticity; 10% sand, poorly graded, fine to medium grained, subangular to subrounded.	61.0	
0					70	CL				
					75	CL		CLAY: brown, (7.5 YR 4/2); medium density, low plasticity.	74.0	

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NEWGINT OMEGA.GPJ NEWGINT.GDT 3/17/06





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-37240-T1.GW-OW3B

BORING/WELL NUMBER OW-3B

PROJECT NAME Omega Chemical

DATE DRILLED 3/6/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0					80	CL		CLAY: yellowish brown, (10 YR 5/4); 90% clay, medium density, low plasticity; 10% sand, poorly graded, fine to medium grained, subangular to subrounded.	81.0	<p>Portland cement w/ 5% bentonite gel grout</p> <p>4" sch 40 pvc, blank casing</p> <p>12" x 3/8" mild steel conductor casing</p>
0					85	CL		SANDY CLAY: brown, (7.5 YR 4/2); 70% clay, slightly plastic, medium density, low plasticity; 30% sand, poorly graded, fine to medium grained, angular to subrounded, rock fragments.	86.0	
0					90	CL		CLAY: brown, (7.5 YR 4/2); medium density, low plasticity.	89.0	
0				G	95	CL		SANDY CLAY: brown, (7.5 YR 4/2); 90% clay, low density, medium plasticity; 30% sand, poorly graded, fine to medium grained, angular to subrounded.	96.0	
0					100	ML		SANDY SILT: brown, (7.5 YR 4/2); 60% silt; 20% sand, poorly graded, fine to medium grained, subangular to subrounded; 20% clay, low density, low plasticity.	99.0	
0					105	ML		SANDY SILT: brown, (7.5 YR 4/2); 85% silt; 10% sand, poorly graded, fine to medium grained, subangular to subrounded; 5% clay, low density, low plasticity.	104.0	
0					110	ML		SANDY SILT: brown, (7.5 YR 4/2); 75% silt; 15% sand, poorly graded, fine to medium grained, subangular to subrounded; 10% clay, low density, medium plasticity.	109.0	
0					115	SP		SAND: light brown, (7.5 YR 6/4); 95% sand, poorly graded, very fine to medium, subangular to subrounded; 5% silt, nonplastic.	112.0	
									114.0	4" stainless steel, 0.010" wire wrap screen (112 - 122 ft bgs)

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NEWGINT OMEGA.GPJ NEWGINT.GDT 3/17/06



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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-37240-T1.GW-OW3B

BORING/WELL NUMBER OW-3B

PROJECT NAME Omega Chemical

DATE DRILLED 3/6/06

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0					120	SP		SAND: light brown, (7.5 YR 6/4); 95% sand, poorly graded, very fine to medium, subangular to subrounded; 5% silt, nonplastic.		
0				G	125	SC		CLAYEY SAND: brown (7.5 YR 4/2); 60% sand, poorly graded, fine to medium grained, subangular to subround; 40% clay, low density, low plasticity.	122.0	4" stainless steel, 0.010" wire wrap screen (112 - 122 ft bgs) No. 2/12 Monterey sand (106 - 126 feet bgs)
0					130			GRAVELLY SAND: light brown (7.5 YR 6/4); 85% sand, fine to coarse, mostly medium, angular to subrounded; 15% gravel, poorly graded, fine, angular to subrounded.	129.0	Hydrated bentonite chips
					135	SP				Sand backfill, #2/16 sand
					140				139.0	
					145					
					150					
					155					



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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-T05B.INSTALL

BORING/WELL NUMBER OW-4A

PROJECT NAME Omega Chemical

DATE DRILLED 3/15/01

LOCATION 12504 East Whittier Blvd, Whittier, CA

CASING TYPE/DIAMETER Sch 40, Mild Steel / 4"

DRILLING METHOD Hollow Stem Auger

SCREEN TYPE/SLOT 4" Stainless Steel Wire Wrap / 0.020"

SAMPLING METHOD CME Continuous Core

GRAVEL PACK TYPE Lonestar #2/12

GROUND ELEVATION 182.73

GROUT TYPE/QUANTITY Portland Cement/5% Bentonite/210 gal

TOP OF CASING 182.47

STATIC WATER LEVEL (feet btoc) 54.87

LOGGED BY W.F. Grove

GROUND WATER ELEVATION 127.60

REMARKS Well is on north side of Washington Blvd., east of Lambert Rd.

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								ASPHALT is 4-inches thick. ROAD BASE	0.3	
0.0									2.0	
								SILTY CLAY: dark brown (10YR3/3); 100% silty clay, slightly plastic, soft, moist, no odor.		
0.0		60			5	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, slightly plastic, soft, moist, no odor.	5.0	
								Trace gravel at 9-feet, fine to coarse, 1-inch maximum diameter.		
0.0		30			10	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, slightly plastic, soft, moist, no odor; increasing gravel, fine to coarse, 1-inch maximum diameter. Probable rock, no recovery below 12.5 feet.	10.0	
								NO RECOVERY	12.5	
		0			15			NO RECOVERY: Rock probably in front of sampler.	15.0	
		0			20			NO RECOVERY: Rock probably in front of sampler. Cuttings indicate a silty clay.	20.0	
0.0		18			25	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, slightly plastic, firm, moist.	25.0	
								NO RECOVERY	26.5	
0.0		12			30	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, slightly plastic, firm, moist.	30.0	
								NO RECOVERY: attached a standard split spoon to resample.	31.0	
0.0		12				CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, slightly plastic, firm, moist.	32.0	
								NO RECOVERY: Broke some of a rock up and out, may work now.	33.0	
									35.0	

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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-TO5B-INSTALL

BORING/WELL NUMBER OW-4A

PROJECT NAME Omega Chemical

DATE DRILLED 3/15/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		0						NO RECOVERY: Rock probably in front of sampler.		
0.0	24				40	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, slightly plastic, firm, moist.	40.0	4" Sch 40, MS Blank (0.3 - 49.8 ft bgs)
					41.0	ML		CLAYEY SILT: brown (10YR4/3); 100% clayey silt, inelastic, soft, moist, no odor.	41.0	
					42.0			NO RECOVERY	42.0	Portland Cement w/5% Bentonite Grout (2 - 42.5 ft bgs)
		50.4			45	ML		CLAYEY SILT: brown (10YR4/3); 100% clayey silt, inelastic, soft, moist, no odor.	45.0	Bentonite Chips (42.5 - 47.7 ft bgs)
					46.0	CL		SILTY CLAY: brown (10YR4/3); 100% silty clay, nonplastic, soft to moderately hard, firmer, moist, no odor.	46.0	
0.0	45.6				50	ML		NO RECOVERY	49.2	Lonestar #2/12 Filter Pack (47.7 - 75.7 ft bgs)
					50.0			SANDY SILT: yellowish brown (10YR5/4); 70% silt, soft; 30% poorly graded sand, very fine to fine, subrounded.	50.0	
					52.2	SM		SILTY SAND: brown (10YR5/3); 85% poorly graded sand, very fine to fine, subrounded; 15% silt, soft.	52.2	
					53.8			NO RECOVERY	53.8	
0.0	51.6				55	SM		SILTY SAND: brown (10YR5/3); 85% poorly graded sand, very fine to fine, subrounded; 15% silt, soft.	55.0	
					57.0	CL		SILTY CLAY WITH SAND: brown (10YR4/3); 55% clay, nonplastic, firm; 25% silt; 20% poorly graded sand, very fine to fine, subrounded; moist, no odor.	57.0	
					58.0	SP		POORLY GRADED SAND: brown (10YR4/3) and pale brown (10YR6/3); 100% sand, fine to medium, subangular to subrounded; very moist. Encountered groundwater at 58-feet bgs.	58.0	
0.0	50.4				60	SP		NO RECOVERY	59.3	4" 20-slot, SS Wire Wrap Screen (49.8 - 69.8 ft bgs)
					60.0			POORLY GRADED SAND: brown (10YR4/3) and pale brown (10YR6/3); 100% sand, fine to medium, subangular to subrounded; saturated. Encountered groundwater at 58-feet bgs.	60.0	
					63.4	SM		SILTY SAND: pale brown (10YR6/3); 65% poorly graded sand, very fine, subrounded; 35% silt, enough to limit permeability; moist, no odor.	63.4	
0.0	39.6				65	SM		NO RECOVERY	64.2	
					66.2	SW		SILTY SAND: pale brown (10YR6/3); 65% poorly graded sand, very fine, subrounded; 35% silt, enough to limit permeability; moist, no odor.	65.0	
					66.2			WELL GRADED SAND: pale brown (10YR6/3); 100% sand, fine to coarse, subangular to subrounded, saturated, no odor.	66.2	
0.0	60				70	SW		NO RECOVERY	68.3	
					70.0			WELL GRADED SAND (possible sluff): pale brown (10YR6/3); 100% sand, fine to coarse, subangular to subrounded, saturated, no odor.	70.0	
					73.0	SP		POORLY GRADED SAND: pale brown (10YR6/3); 100% sand, fine to medium, increasing fineness with depth, subangular to subrounded, saturated, no odor.	73.0	4" 20-slot, SS Wire Wrap Screen (69.8 - 74.8 ft bgs)
					75.0				75.0	

Continued Next Page





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-T05B-INSTALL

BORING/WELL NUMBER OW-4A

PROJECT NAME Omega Chemical

DATE DRILLED 3/15/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0.0		48				SP		POORLY GRADED SAND: pale brown (10YR6/3); 100% sand, fine to medium, increasing fineness with depth, subangular to subrounded, saturated, no odor.	76.0	
						SW		WELL GRADED SAND WITH GRAVEL: brown (10YR4/3); 70% sand, fine to coarse, subrounded to subangular, low to moderate sphericity; 30% gap graded gravel, fine to coarse, 2-inch maximum diameter, angular to subrounded, low to moderate sphericity; saturated, no odor.	78.0	
						CL		GRAVELLY CLAY: brown (10YR4/3); 60% clay, nonplastic, moderately firm; 25% gap graded gravel, fine to coarse, 2-inch maximum diameter, angular to subrounded, low to moderate sphericity; 15% gap graded sand, fine to coarse, subangular to subrounded, low to moderate sphericity; moist to saturated, no odor.	79.0	
					80			NO RECOVERY Total Depth of Borehole is 80 feet bgs.	80.0	Fill (76 - 80 ft bgs)





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-T05B.INSTALL

BORING/WELL NUMBER OW-5

PROJECT NAME Omega Chemical

DATE DRILLED 8/6/01

LOCATION 12504 East Whittier Blvd, Whittier, CA

CASING TYPE/DIAMETER Sch 40, PVC / 4"

DRILLING METHOD Hollow Stem Auger

SCREEN TYPE/SLOT 4" Stainless Steel Wire Wrap / 0.020"

SAMPLING METHOD CME Continuous Core

GRAVEL PACK TYPE Monterey #2/12

GROUND ELEVATION 152.68

GROUT TYPE/QUANTITY Portland Cement/5% Bentonite/210 gal

TOP OF CASING 151.96

STATIC WATER LEVEL (feet btoc) 28.18

LOGGED BY Mike Hoffman

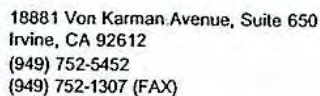
GROUND WATER ELEVATION 123.78

REMARKS

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		60						ASPHALT is 6-inches thick.	0.5	
						SM		SILTY SAND; very dark gray (10YR3/1); 85% poorly graded sand, fine grained; 15% silt in matrix; moist; slightly cohesive; organic odor.		
3.8		60			5			CLAY; very dark brown (10YR3/2); 100% clay, nonplastic, medium stiff; moist; numerous white inclusions.	5.0	4-inch, Sch 40 PVC, blank casing (0-30 ft bgs)
0		60			10	CL		CLAY; as above except brown (10YR4/3) and contains trace fine gravel with subangular clasts.		Neat Cement with 5% Bentonite Grout (0-20 ft bgs)
0		60			15			CLAY WITH SAND; dark yellow brown (10YR4/4); 85% clay, nonplastic, medium stiff; 15% fine sand; moist.	15.0	
								CLAY; brown (10YR4/3); 100% clay; nonplastic, medium stiff; moist; numerous white inclusions.	16.5	
0		60			20			CLAY; as above except dark yellow brown (10YR3/4).		Bentonite Seal (20-25 ft bgs)
0		60			25			NO RECOVERY (25-26.5 feet)		
						CL		CLAY; as above except is low plastic; contains trace black inclusions; trace reddish (Fe) staining (weathering).		#2/12 Monterey Sand Filter Pack (25-51 ft bgs)
0		42			30			CLAY; as above except dark greenish brown (10YR4/2); abundant mica; wet; lacks black and white inclusions.		4", 20-slot, SS Wire Wrap Screen (30-50 ft bgs)
					35					

Continued Next Page





## PROJECT NUMBER 10500-30697-TO5B.INSTALL

BORING/WELL NUMBER OW-5

PROJECT NAME      Omega Chemical

DATE DRILLED 8/6/01

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0		48						NO RECOVERY (35-36 feet)	36.0	
						ML		SILT; very dark brown (10YR3/2); 100% silt, low plasticity, medium stiff; abundant mica; wet.	39.0	#2/12 Monterey Sand Filter Pack (25-51 ft bgs)
0		42			40	SM		SILTY SAND; very dark green brown (10YR3/2); 70% sand, fine; 30% silt in matrix; micaceous; wet. NO RECOVERY (40-41.5 feet)	42.5	
						SW		SILTY SAND; as above.	45.0	#2/12 Monterey Sand Filter Pack (25-51 ft bgs)
2.3					45			SAND; olive brown (2.5Y4/3); 100% sand, fine to coarse grained, subrounded to subangular, well graded; trace fine gravel, diameters to 1/4 inch, subangular.		
					50	SP		SAND: lithology based on the response of the drill rig.	52.0	Slough





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-T05B-INSTALL

BORING/WELL NUMBER OW-6

PROJECT NAME Omega Chemical

DATE DRILLED 3/16/01

LOCATION 12504 East Whittier Blvd, Whittier, CA

CASING TYPE/DIAMETER Sch 40, Mild Steel / 4"

DRILLING METHOD Hollow Stem Auger

SCREEN TYPE/SLOT 4" Stainless Steel Wire Wrap / 0.020"

SAMPLING METHOD CME Continuous Core

GRAVEL PACK TYPE Lonestar #2/12

GROUND ELEVATION 170.94

GROUT TYPE/QUANTITY Portland Cement/5% Bentonite/210 gal

TOP OF CASING 170.54

STATIC WATER LEVEL (feet btoc) 43.95

LOGGED BY W.F. Grove

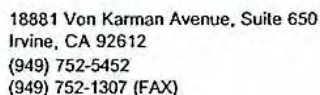
GROUND WATER ELEVATION 126.59

REMARKS Well is on west side of Lambert Rd., south of Washington Blvd.

(ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								ASPHALT is 4-inches thick. ROAD BASE	0.3	
									2.0	
								SILTY CLAY: dark grayish brown (10YR4/2); 100% silty clay, slightly plastic, moist, no odor.		
					5	CL			5.0	
0.0	36							SILTY CLAY: brown (10YR5/3) with heavy mottling from 7' to 8'; 100% silty clay grading to clay, slightly plastic; trace gravel, fine, 1/2-inch maximum diameter; moist, no odor.		
						CL			8.0	
								NO RECOVERY		
									10.0	
0.0	55.2				10	CL		SILTY CLAY: brown (10YR4/3) moderate to heavy mottling; 85% clay, 15% silt, slightly plastic; trace gravel; moist, no odor.		
									12.0	
						CL		CLAY: brown (10YR4/3) mottled; 90% clay, slightly plastic; 10% gravel, fine, 1/2-inch maximum diameter, increasing with depth; moist, no odor.		
									14.6	
0.0	36.08				15	ML		NO RECOVERY CLAYEY SILT: brown (10YR4/3) mottling; 100% clayey silt, firm; trace gravel, fine, 3/4-inch maximum diameter; moist, no odor.	15.0	
									18.1	
								NO RECOVERY		
									20.0	
0.0	60				20			SILTY CLAY: brown (10YR4/3) slight mottling; 100% clay, nonplastic, firm, moist, no odor.		
						CL				
0.0	55.2				25			SILTY CLAY: brown (10YR4/3) slight mottling; 100% clay, nonplastic, firm, moist, no odor.		
									29.6	
0.0	47				30			NO RECOVERY SILTY CLAY: brown (10YR4/3) slight mottling; 100% clay, nonplastic, firm, moist, no odor.	30.0	
						CL				
									33.9	
								NO RECOVERY	35.0	
					35					

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## PROJECT NUMBER 10500-30697-T05B.INSTALL

BORING/WELL NUMBER OW-6

PROJECT NAME	Omega Chemical
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DATE DRILLED 3/16/01

Continued from Previous Page

NEWGINT OMEGA.GPJ NEWGINT.GOT 12/20/01





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-TO5B.INSTALL

BORING/WELL NUMBER OW-7

PROJECT NAME Omega Chemical

DATE DRILLED 3/13/02

LOCATION 12504 East Whittier Blvd, Whittier, CA

CASING TYPE/DIAMETER Sch 40, Mild Steel / 4"

DRILLING METHOD Hollow Stem Auger

SCREEN TYPE/SLOT 4" Stainless Steel Wire Wrap / 0.020"

SAMPLING METHOD Modified CA Split Spoon

GRAVEL PACK TYPE Monterey #2/12

GROUND ELEVATION 213.34

GROUT TYPE/QUANTITY Portland Cement/5% Bentonite

TOP OF CASING 212.01

STATIC WATER LEVEL (feet btoc) 76.00

LOGGED BY W.F. Grove

GROUND WATER ELEVATION 136.01

REMARKS

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								CONCRETE is 8 inches thick.	0.7	
								ROADBASE	1.0	
								CLAY: brown (7.5YR4/3); slightly plastic, soft, moist; minor rock.		
					5	CL				
	8,9, 10	12								
	4,7, 11	14				ML		CLAYEY SILT: brown (7.5YR4/3); very slightly plastic, soft, moist; 30% clay, 70% silt.	6.5	
0	5,6, 11,12	20						SILTY CLAY: brown (7.5YR4/3); very slightly plastic, soft, moist; approximately 15% coarse sand; trace gravel to 25 mm.	7.5	
	3,11, 13	12			10	CL				
	7,14, 16	14								
0	9,7, 14,16	21								4" diameter, sch 40, mild steel blank (0-70.89 ft bgs).
	11,12, 19	14			15			CLAY: brown (7.5YR4/3); slightly plastic, moderately firm, moist; 15% silt; trace rock to 25mm; no staining or odor.	15.0	
	9,14, 16	16								
0	12,18, 20,22	23				CL				
	3,9, 14	18			20			1" thick, medium to coarse sand lens.		
	10,16, 21	18						SILTY CLAY: brown (7.5YR4/3); slightly plastic, soft, moist; 35% silt; trace gravel to 10 mm; no staining or odor.	21.5	
0	11,14, 20,22	22								Portland cement w/5% bentonite grout (2-60.6 ft bgs).
	5,9, 16	10			25	CL				
	11,16, 23	16								
0	8,12, 15,26	24								
	9,13, 21	18			30	ML		SILT: brown (7.5YR5/4); nonplastic to very slightly plastic; 20% clay; 5% gravel to 25 mm. Sand stringer at 29.6 feet bgs, fine to coarse, well graded, angular to subrounded.	29.0	
	6,18, 20	13				CL		CLAY: brown (7.5YR4/3); nonplastic to very slightly plastic, firm, moist; 15% silt; no staining or odor.	30.0	
0	12,13, 22,30	22								
						CL		CLAY: brown (7.5YR4/3), slightly mottled; nonplastic to very slightly plastic, firm, moist; 15% silt; no staining or odor.	33.0	
					35				35.0	

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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-TO5B.INSTALL

BORING/WELL NUMBER OW-7

PROJECT NAME Omega Chemical

DATE DRILLED 3/13/02

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0	7.7, 22 12.17, 24 10.17, 20, 24	12 10 23				CL		SILTY CLAY: brown (7.5YR4/3); very slightly plastic, firm, moist; 30% silt; no staining or odor.		
	18.20, 30	18			40					
	12.19, 22	18				ML		CLAYEY SILT: brown (7.5YR4/3); very slightly plastic, soft, moist; 35% clay; 5% very fine sand; no staining or odor.	41.5	
0	10.11, 16, 30	18						SILTY CLAY: brown (7.5YR4/3); very slightly plastic, firm, moist; root structures filled with very light brown clay; 20% silt; trace coarse sand; no staining or odor.	43.0	
	5.7, 21	12			45					
	17.18, 20	18								
0	11.20, 22, 23	18				CL				
	5.19, 20	16			50					
	16.22, 25	16								
0	14.27, 30, 34	18						Increase in very light brown clay filling cracks.		
	17.20, 32	16			55					
	29.30, 57	15				CL		SILTY CLAY: brown (7.5YR4/3); very slightly plastic, firm, moist; root structures filled with very light brown clay; 20% silt; 5% gravel, 5 to 25 mm diameter, angular; trace coarse sand; no staining or odor. Sandy silt stringer at 57 feet bgs.	55.0	
0	12.18, 21, 27	20								
	13.17, 23	17			60					
	16.18, 25	17				ML		SANDY SILT: brown (7.5YR5/4); nonplastic, soft, moist; 35% very fine sand, poorly graded, subrounded; very light brown clay filling fractures and other voids; no staining or odor.	58.0	
0	5.7, 20, 23	19								
	10.19, 26	18			65					
	15.16, 23	18								
0	4.16, 17, 24	24				CL		SILTY CLAY: brown (7.5YR4/3); very slightly plastic, firm, moist; 20% silt; fractures filled with very light brown clay; no staining or odor; silt and moisture content increase with depth.	60.5	
	18.22, 29	18			70					
	15.28, 30	18				SM		SILTY SAND: brown (7.5YR5/4); 70% sand, very fine to coarse, well graded, subangular to subrounded; 25% silt; 5% gravel to 25 mm; no odor, moist.	67.0	
0	16.20, 45	20						CLAY: brown (7.5YR4/3); moist; 15% silt; very light brown clay in minor fractures or root structures; trace gravel to 25 mm, angular to subangular; no staining or odor.	69.7 70.2	
					75					

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NEWGINT OMEGA.GPJ NEWGINT.GDT 5/20/02





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-TO5B.INSTALL

BORING/WELL NUMBER OW-7

PROJECT NAME Omega Chemical

DATE DRILLED 3/13/02

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0	7,9, 11	18						SILTY CLAY: brown (7.5YR5/4); slightly plastic, moist; 25% silt; trace gravel to 25 mm; no staining or odor.		
	3,14, 16	18								
	3,8, 14,21	23				CL		Vertical crack filled with sand and very light clay from 79 to 80 ft bgs.		
	11,17, 20	18			80			Groundwater at 81 ft bgs, saturated sand and gravel lens.		
	13,16, 27	17							82.5	
0	8,14, 16,24	24				ML		SANDY CLAYEY SILT: brown (7.5YR4/3); nonplastic to very slightly plastic, saturated; 20% clay; 15% very fine sand; minor very light brown clay; no staining or odor.	84.0	
	6,14, 13	18			85			SANDY CLAYEY SILT: brown (7.5YR4/3); nonplastic, hard, moist; very minor very light brown clay in voids; no staining or odor. No water in this material.		
	10,16, 21	18				ML				
0	5,7, 10,12	20			90			Total Depth of 8-inch pilot hole is 90 ft bgs, no further samples collected.	90.0	
								Total depth of 10-inch borehole is 92 ft bgs.	92.0	

4" diameter, 0.020", stainless steel, wire wrap screen (70.89-90.89 ft bgs).

#2/12 Monterey sand (65-92.5 ft bgs).





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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-T05B.INSTALL

BORING/WELL NUMBER OW-8

PROJECT NAME Omega Chemical

DATE DRILLED 3/13/02

LOCATION 12511 Putnam St, Whittier, CA

CASING TYPE/DIAMETER Sch 40, Mild Steel / 4"

DRILLING METHOD Hollow Stem Auger

SCREEN TYPE/SLOT 4" Stainless Steel Wire Wrap / 0.020"

SAMPLING METHOD Modified CA Split Spoon

GRAVEL PACK TYPE Monterey #2/12

GROUND ELEVATION 199.03

GROUT TYPE/QUANTITY Portland Cement/5% Bentonite

TOP OF CASING 198.42

STATIC WATER LEVEL (feet btoc) 65.00

LOGGED BY W.F. Grove

GROUND WATER ELEVATION 133.42

REMARKS

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								CONCRETE is 7 inches thick.	0.6	
								ROADBASE	1.0	
						CL		SILTY CLAY: brown (7.5YR4/3); 70% clay with minor rock fragments to 3-inch diameter (probable fill), very slightly plastic, firm, hard to dig, moist; 30% silt, moist, no odor.	2.0	
					5					
						ML				
0	5,6, 7	18								
	3,4, 5	18								
	9,10, 11,12	23								
	8,10, 12	18			10					
	7,9, 11	17								
0	50,50	17								
						CL		CLAY: brown (7.5YR4/2); very slightly plastic, hard, firm, no staining or odor.	14.0	
	21,40, 50	17			15			SILTY CLAY: brown (7.5YR4/2); very slightly plastic, firm, moist; 30% silt; gravel/clay lens - trace gravel to 20 mm through out	15.0	
	17,21, 25	18				CL				
0	16,22, 25,30	23								
	12,17, 21	18			20			CLAY: brown (7.5YR4/2); very slightly plastic, hard, moist; less than 10% silt.	21.0	
	13,18, 24	17								
2/0	22,29, 50,	18				CL				
	15,16, 20	17			25					
	15,22, 29	18				SW		SAND: brown (7.5YR4/3); fine to coarse, well graded, subangular to subrounded, moist; grading to very fine to fine, poorly graded, subrounded at 27 feet, no odor.	26.0	
	18,20, 25,30	23				ML		SILT: brown (7.5YR4/3); nonplastic, soft, no staining or odor.	27.0	
4/0								CLAY: brown (7.5YR4/3); very slightly plastic, hard; trace coarse sand to 5 mm; trace light brown clay in voids and cracks, no staining or odor.	28.0	
	41,50	14			30					
	25,26, 31	18						SILTY CLAY: brown (7.5YR4/3); very slightly plastic, firm/hard, moist; 30% silt; trace coarse sand; no staining or odor.	30.5	
4/0	18,23, 26,30	18				CL				
					35					

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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-30697-TO5B.INSTALL

BORING/WELL NUMBER OW-8

PROJECT NAME Omega Chemical

DATE DRILLED 3/13/02

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	14,17, 22	18								
	16,19, 26	17								
	20,24, 29,40	20				ML		SILT: brown (7.5YR4/3); nonplastic to very slightly plastic, soft to medium; interbedded with 3-inch thick clay stringers.	37.0	
18/0	23,27, 41	18			40	CL		SILTY CLAY: brown (7.5YR4/3); very slightly plastic, firm to hard, moist; trace gravel to 5 mm; no staining or odor.	40.0	4" diameter, sch 40, mild steel blank (0-60.38 ft bgs).
	20,25, 32	14								
	22,25, 27,27	22								
10/0	8,12, 15	17			45	ML		SILT: brown (7.5YR4/3); nonplastic, medium soft, moist; trace clay; no staining or odor.	44.5	Portland cement w/5% bentonite grout (2-51 ft bgs).
	12,15, 21	16								
	19,23, 26,28	20						SANDY SILT: light brown (7.5YR6/4); soft, moist; 35% very fine sand, poorly graded, subrounded; no staining or odor.	47.0	
18/2	17,21, 27	17			50	ML				
	15,20, 24	17								
4/2	29,50, 50,	18								3/8" pressed, uncoated bentonite pellets (60.6-65 ft bgs).
	19,24, 28	16			55			SAND: light brown (7.5YR6/4); clean sand, very fine to fine, poorly graded, subrounded, moist, no staining or odor.	54.0	
	17,20, 25	14								
4/2	50,50	12				SP				
	37,50	12			60					#2/12 Monterey sand (55-81 ft bgs).
	42,50	14								
2/0	50,50	12				SP		SAND: light brown (7.5YR6/4); clean sand, very fine to medium, poorly graded, subrounded, moist, no staining or odor.	63.0	
	29,50	15			65			SAND: light brown (7.5YR6/4); clean sand, very fine to medium, poorly graded, subrounded, saturated, no staining or odor. Groundwater encountered at 65 ft bgs.	65.0	
	28,50	14								
28/0	18,21, 25,30	22				SP				
	20,23, 28	16			70					4" diameter, 0.020", stainless steel, wire wrap screen (60.38-79.98 ft bgs).
4/0	15,19, 22	15								
	13,15, 19,22	24				SW		SAND: light brown (7.5YR6/4); fine to coarse, well graded, subangular to subrounded, saturated; no staining or odor. Sand heaving at 75 ft bgs.	72.0	
					75				75.0	

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## BORING/WELL CONSTRUCTION LOG


PROJECT NUMBER 10500-30697-T05B-INSTALL

BORING/WELL NUMBER OW-8

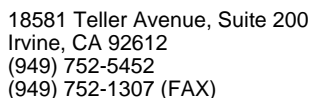
PROJECT NAME Omega Chemical

DATE DRILLED 3/13/02

Continued from Previous Page

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
2/0	50	18						SAND: light brown (7.5YR6/4); medium to coarse, minor fine, well graded, subangular to subrounded, saturated.		 <p>4" diameter, 0.020", stainless steel, wire wrap screen (60.38-79.98 ft bgs).</p>
	50	18				SW			78.0	
	50	10				ML		SANDY SILT: brown (7.5YR4/3); nonplastic, firm, moist; 25-30% very fine sand; 5% gravel to 10 mm; light brown clay filling cracks and fractures.	80.0	
					80			Total Depth of 8-inch pilot hole is 80 ft bgs, no further samples collected.	81.0	
								Total Depth of 10-inch borehole is 81 ft bgs.		





PROJECT NUMBER	10500-37240-T1.GW.Phase1a	BORING/WELL NUMBER	OW-8B REV
PROJECT NAME	Omega Chemical	DATE DRILLED	8/16/04
LOCATION	12511 Putnam St, Whittier, CA	CASING TYPE/DIAMETER	Sch 40, PVC / 4"
DRILLING METHOD	Mud Rotary	SCREEN TYPE/SLOT	4" Stainless Steel Wire Wrap / 0.020"
SAMPLING METHOD	Mud Rotary Cuttings	GRAVEL PACK TYPE	Monterey #2/12
GROUND SURFACE ELEVATION (FT MSL)	NA	GROUT TYPE/QUANTITY	Portland Cement/5% Bentonite
TOP OF CASING ELEVATION (FT MSL)	NA	STATIC WATER LEVEL (FT BELOW TOC)	NM
LOGGED BY	W.F. Grove	GROUND WATER ELEVATION (FT MSL)	
REMARKS	The lithology at OW-08 (10' north), was used from 0-71'. The geophysical log and cuttings were used from 71' to the total depth of 143'		

PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
								CONCRETE is 7 inches thick.	0.6	
								ROADBASE	1.0	
						CL		SILTY CLAY: brown (7.5YR4/3); 70% clay with minor rock fragments to 3-inch diameter (probable fill), very slightly plastic, firm, hard to dig, moist; 30% silt; moist, no odor.	2.0	Concrete (0-2 ft bgs)
								SILT: light brown (7.5YR6/4); nonplastic, soft, moist to damp, no odor.		
	5,6,7	18			5					
	3,4,5	18								
0	9,10,11,12	23				ML				
	8,10,12	18			10					
	7,9,11	17								
0	50,50	17								
						CL			14.0	
	21,40,50	17			15			CLAY: brown (7.5YR4/2); very slightly plastic, hard, firm, no staining or odor.	15.0	
	17,21,25	18						SILTY CLAY: brown (7.5YR4/2); very slightly plastic, firm, moist; 30% silt; gravel/clay lens - trace gravel to 20 mm through out		
0	16,22,25,30	23				CL				
	12,17,21	18			20					
	13,18,24	17						CLAY: brown (7.5YR4/2); very slightly plastic, hard, moist; less than 10% silt.	21.0	
2/0	22,29,50,	18				CL				
	15,16,20	17			25					
	15,22,29	18				SW			26.0	
						ML		SAND: brown (7.5YR4/3); fine to coarse, well graded, subangular to subrounded, moist; grading to very fine to fine, poorly graded, subrounded at 27 feet, no odor.	27.0	
4/0	18,20,25,30	23						SILT: brown (7.5YR4/3); nonplastic, soft, no staining or odor.	28.0	
	41,50	14			30	CL		CLAY: brown (7.5YR4/3); very slightly plastic, hard; trace coarse sand to 5 mm; trace light brown clay in voids and cracks, no staining or odor.		
	25,26,31	18						SILTY CLAY: brown (7.5RY4/3); very slightly plastic, firm/hard, moist; 30% silt; trace coarse sand; no staining or odor.	30.5	
4/0	18,23,26,30	18				CL				
					35					

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18581 Teller Avenue, Suite 200  
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(949) 752-1307 (FAX)

## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-37240-T1.GW.Phase1a

BORING/WELL NUMBER OW-8B REV

PROJECT NAME Omega Chemical

DATE DRILLED 8/16/04

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
	14,17, 22	18								
	16,19, 26	17								
	20,24, 29,40	20				ML		SILT: brown (7.5YR4/3); nonplastic to very slightly plastic, soft to medium; interbedded with 3-inch thick clay stringers.	37.0	
18/0	23,27, 41	18			40			SILTY CLAY: brown (7.5YR4/3); very slightly plastic, firm to hard, moist; trace gravel to 5 mm; no staining or odor.	40.0	
	20,25, 32	14				CL				
	22,25, 27,27	22								
10/0	8,12, 15	17			45	ML		SILT: brown (7.5YR4/3); nonplastic, medium soft, moist; trace clay; no staining or odor.	44.5	
	12,15, 21	16						SANDY SILT: light brown (7.5YR6/4); soft, moist; 35% very fine sand, poorly graded, subrounded; no staining or odor.	47.0	
	19,23, 26,28	20								
18/2	17,21, 27	17			50	ML				12" x 3/8" mild steel conductor casing (0-91.4 ft bgs)
	15,20, 24	17								
4/2	29,50, 50,	18								4" sch 40 pvc, blank casing (0-116 ft bgs)
	19,24, 28	16			55			SAND: light brown (7.5YR6/4); clean sand, very fine to fine, poorly graded, subrounded, moist, no staining or odor.	54.0	
	17,20, 25	14								
4/2	50,50	12				SP				Portland cement w/ 5% bentonite gel grout (2 - 110 ft bgs)
	37,50	12			60					
	42,50	14								
2/0	50,50	12				SP		SAND: light brown (7.5YR6/4); clean sand, very fine to medium, poorly graded, subrounded, moist, no staining or odor.	63.0	
	29,50	15			65			SAND: light brown (7.5YR6/4); clean sand, very fine to medium, poorly graded, subrounded, saturated, no staining or odor. Groundwater encountered at 65 ft bgs.	65.0	
	28,50	14								
28/0	18,21, 25,30	22				SP				
	20,23, 28	16			70			The lithology above 71 feet is from soil boring OW-8 from split spoon sampling. The lithology below 71 feet is from OW-8B, a mud rotary hole.	71.0	
								CLAY AND SILT: yellowish brown; 70% clay; 30% silt; high plasticity, high density, moist, no odor.		
						CL				
					75				75.0	

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## BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER 10500-37240-T1.GW.Phase1a

BORING/WELL NUMBER OW-8B REV

PROJECT NAME Omega Chemical

DATE DRILLED 8/16/04

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
						CL		CLAY AND SILT: yellowish brown; 70% clay; 30% silt; high plasticity, high density, moist, no odor.		
						ML			78.0	
						SM		SANDY SILT: yellowish brown; 50% silt; 30% sand, fine grained, subround to round; 10% gravel, fine to coarse grained, subround to round; 10% clay; medium density, moist, no odor.	79.0	
					80			SILTY SAND WITH GRAVEL: yellowish brown; 50% sand, fine to coarse grained, subround to round, well graded; 20% silt; 20% gravel, fine to coarse grained, subround to round, well graded; 10% clay; moist to wet, no odor.	80.0	
						GM		SILTY GRAVEL WITH SAND: brown; 40% gravel, fine to coarse grained, subround to round, well graded; 30% sand, fine to coarse grained, round to subround, well graded; 30% silt; trace of cobbles, maximum diameter of 6 inches; high density, moist, no odor.		
					85				87.0	
						CL		CLAY WITH SAND: brown; 85% clay, medium plasticity; 15% sand, poorly graded, fine to medium, mostly fine, subangular to subrounded.		
					90					
						CH		CLAY: brown; 95% clay, medium to high plasticity; 5% sand, poorly graded, medium, subangular to subrounded; trace silt.	92.0	
					95					
						CH				
					100				102.0	
						CL		CLAY: brown; 80% clay, 10% silt, medium plasticity; 10% sand, poorly graded, fine to medium, subangular to subrounded.		
					105				108.0	
						CH		CLAY: brown; 95% clay, high plasticity; 5% sand, poorly graded, fine to medium, subangular to subrounded.	110.0	
					110					
						CL		CLAY WITH SAND: brown; 85% clay, medium plasticity; 15% sand, poorly graded, fine to medium, subangular to subrounded; trace silt.	113.0	
						ML		SANDY SILT: brown; 55% silt, 10% clay, low plasticity; 35% sand, fine to medium, subangular to subrounded.	115.0	
					115					

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PID (ppm)	BLOW COUNTS	RECOVERY (inches)	SAMPLE ID.	EXTENT	DEPTH (ft. bgs)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
						ML		SANDY SILT: brown; 55% silt, 10% clay, low plasticity; 35% sand, fine to medium, subangular to subrounded.		<p>No. 2/12 Monterey sand (111.3 - 128 feet bgs)</p> <p>4" stainless steel, 0.010" wire wrap screen (116 - 126 ft bgs)</p> <p>Hydrated bentonite chips (128 - 143 ft bgs)</p>
					120	SM		SILTY SAND: light brown and brown; 80% sand, poorly graded, fine to medium, subangular to rounded; 20% silt, nonplastic.	119.0	
					125	SP SM		SAND WITH SILT: light brown; 95% sand, poorly graded, fine to medium, mostly fine, subangular to rounded; 5% silt, nonplastic.	122.0	
					130	CL		CLAY: light brown; 90% clay, medium plasticity; 10% sand.	129.0	
						SP SM		SAND WITH SILT: light brown; 95% sand, poorly graded, fine to medium, mostly fine, subangular to subrounded; 5% silt, nonplastic.	131.0	
						CL		CLAY: light brown; 90% clay, medium plasticity; 10% sand, poorly graded, fine to medium, mostly fine, subangular to subrounded.	132.0	
					135	SP		SAND: light brown; 100% sand, poorly graded, fine to medium, mostly fine, subangular to subrounded.	135.0	
					140	CL		CLAY: light brown; 90% clay, medium plasticity; 10% sand, poorly graded, fine to medium, mostly fine, subangular to subrounded.	140.0	
						SP		SAND: light brown; 100% sand, poorly graded, fine to medium, mostly fine, subangular to subrounded.	141.0	
								Total depth is 143 feet bgs.	143.0	